

TECHNOLOGY DEPT.

Chilton's

MOTOR AGE

MARCH 1951



In This Issue: **The New Pontiac 6 Carburetor**

HASTINGS

Sets the pace

IN ADVERTISING, TOO!



The more you delay - the more you pay!

**KEEP YOUR CAR
OUT OF THE
DANGER
ZONE**



When oil-pumping starts in your car, you can be pretty sure your piston rings are wearing out. And, unless you replace them, you can be very sure you are headed for costly Danger Zone No. 3. Piston rings are designed to take the wear—to be replaced again and again—to save your engine.

So, when your car first needs new rings, ask your motor specialist to replace them with Hastings Piston Rings. They are engineered exclusively for replacement service. They stop oil-pumping, check cylinder wear and restore performance. The more you delay, the more you pay.

FREE! Send for your Danger Zone chart and save money on engine repair. Write: Hastings Manufacturing Company, Hastings, Michigan.

HASTINGS

Over the past ten years, Hastings has led all piston ring makers in dollars invested in advertising to car, truck and tractor owners.

● This year, eight popular magazines—including *The Saturday Evening Post*, *Collier's* and *Country Gentleman*—carry your Hastings messages to a total circulation of 110,441,626. That means almost sixteen million copies of each advertisement this year. And every advertisement is half page or full page size.

This advertising leadership, year in and year out, means more ring jobs and more repair jobs for you.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
Hastings Ltd., Toronto



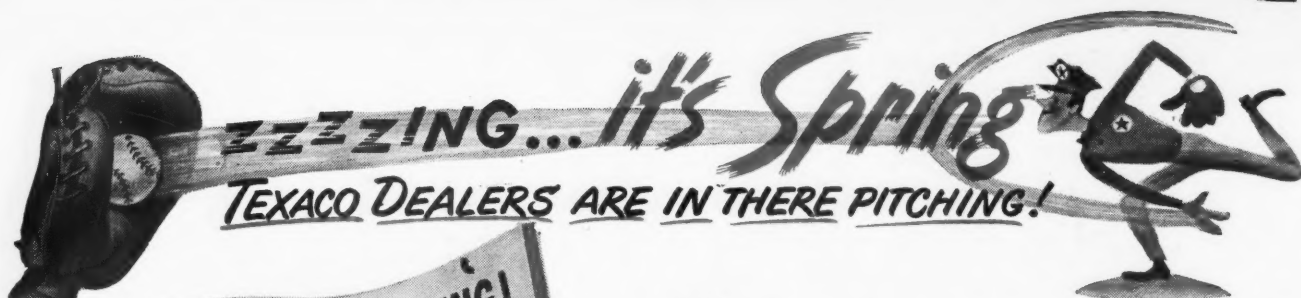
3 SERVICES

*in one
package*



- Non-acid cleaner that quickly removes rust, scale, grease and slime in one simple operation.
- Double Action Radiator Cement to seal leaks.
- Rust Preventor to prevent rust formation.

PERMATEX COMPANY, INC., BROOKLYN 29, N. Y.

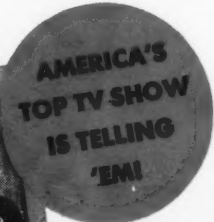
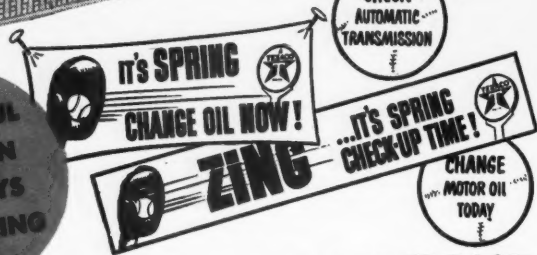


MILLIONS of MOTORISTS are being told...it's time to see their **TEXACO DEALERS!**

THE big Spring drive is on. All over the U.S. car owners are being impressed and reminded that the time is at hand to go to their *Texaco Dealers* for a Spring check-up.

Full color advertisements in the big magazines—reaching some 50-million readers. America's No. 1 TV show starring none other than Milton Berle and a galaxy of stars—telling more than 17-million televiewers every Tuesday night. Thousands of billboards from coast to coast—delivering some 31-million messages daily. Plus station banners, window streamers and stickers and direct mail promotion.

It all adds up to plenty of business plus extra service and TBA profits for *Texaco Dealers* everywhere.



No wonder **TEXACO DEALERS** are such busy dealers!

**A Great Line-up for
TEXACO DEALERS**

Sky Chief and **FIRE-CHIEF** GASOLINES
HAVOLINE and TEXACO MOTOR OILS • MARFAK CHASSIS
LUBRICATION • P T ANTI-FREEZE • REGISTERED REST ROOMS

Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

for AUTOMOTIVE SERVICEMEN

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Managing Editor

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Washington News Editor



Vol. LXX, No. 4

March, 1951

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Brake Business is Big Business when you sell



Raybestos PG Brake Lining Sets last longer on today's vehicles, make faster stops in today's traffic. They are selected from linings made by 7 different processes. They are proving ground tested and factory-packaged in the right combination for each make and model of vehicle.

PG Ray-BOND for bonding

PG drilled for riveting



Raybestos PG Sets, packaged with this certificate, are featured month after month in the **SATURDAY EVENING POST**

Raybestos

Raybestos Division of RAYBESTOS-MANHATTAN, INC., Bridgeport, Conn.

AMERICA'S BIGGEST SELLING BRAKE LINING



RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hoses • Fan Belts • Mechanical Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

THE MAGNET



Profitable Filter and Cartridge Sales COME TO YOU When You Display the WIX Merchandiser....

The sensational WIX Merchandiser Cabinet is the powerful sales magnet that PULLS filter service profits to you! Everything you need to make these fast, frequent sales is right at your fingertips... a lively stock of WIX Replacement Cartridges—with the great new filtrant WIXITE, Identification Chart to spot the filter on the car you're servicing, Price List and Catalog—ALL in ONE complete, sales-quick unit! Even a shelf for your canned oil. Put this strong selling force to work for you... it draws attention and attracts sales.



wix

TRADE MARK REG. OIL FILTERS CARTRIDGES



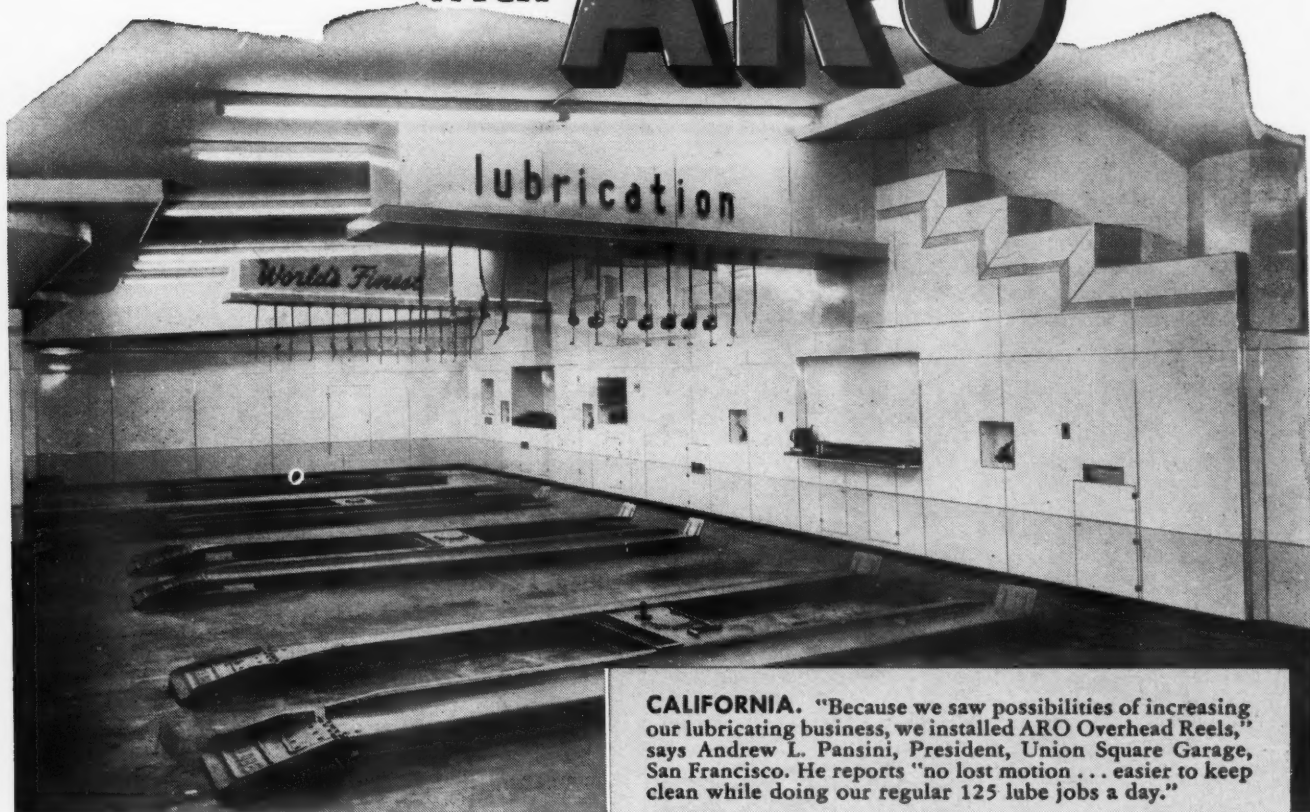
WIX ACCESSORIES CORP'N.

GASTONIA, N. C.

CANADIAN FACTORY: WIX ACCESSORIES CORP. LTD., 11 Wabash Ave., Toronto 3, Ont.

**COAST
TO COAST**

Profits roll in with **ARO**



CALIFORNIA. "Because we saw possibilities of increasing our lubricating business, we installed ARO Overhead Reels," says Andrew L. Pansini, President, Union Square Garage, San Francisco. He reports "no lost motion . . . easier to keep clean while doing our regular 125 lube jobs a day."

MAINE. "After 9 months of use we have found that ARO fits our needs and increases profits. Glad we bought ARO," says W. Hazen Jewett, Pres., Jewett-Ford, Lewiston, Maine.

Whatever your lube department needs—ARO HAS IT to help you PROFIT! ARO puts pace-setting performance and cost-saving features in the complete line—everything you need in modern lube equipment for PROFITABLE service.

See your ARO Jobber.
**The Aro Equipment Corporation,
Bryan, Ohio**

Aro Equipment of Canada, Ltd., Toronto, Ont.



ARO

LUBE EQUIPMENT

Also... AIR TOOLS... HYDRAULIC EQUIPMENT...
AIRCRAFT PRODUCTS... GREASE FITTINGS

*For your own
and your customers'
protection...*

**USE ONLY
DELCO-REMY
DISTRIBUTOR
CONTACT POINTS IN
DELCO-REMY
DISTRIBUTORS**



They're made for each other—Delco-Remy distributors and Delco-Remy distributor contact points. Used together, there is no danger of dissatisfaction. So play it safe with your customers—buy Delco-Remy contact points in packaged sets; there's a right type for each Delco-Remy distributor.

CAUTION

Counterfeit Delco-Remy parts have appeared on the market in quantity. Buy Delco-Remy parts from your Delco-Remy distributor.



DELCO-REMY—A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION
ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

This line is



RESISTOR

Offers car owners new advantages found only in automotive type spark plugs with built-in resistors. Original equipment on many leading makes of America's finest cars.

STANDARD

Ignition engineered by ignition engineers for unsurpassed performance... Specified as original factory equipment by leading manufacturers of cars, trucks and tractors.

TRANSPORT

Rugged construction and aircraft type insulator combine to give lower cost per mile of spark plug operation... built to take it... another Auto-Lite original factory product.

AUTO-LITE SPARK PLUGS

This line is unmatched... and Auto-Lite is the best advertised name in the automotive after-market. Only Auto-Lite offers dealers the top-rated "Suspense!" show on radio every week and TV every week...

the famous "spark plugs look alike, too" campaign in national magazines and newspapers... promotion program for dealers and jobbers... all designed for greater sales. Ask your jobber's salesman, or write to

THE ELECTRIC AUTO-LITE COMPANY
Merchandising Division

Toledo 1, Ohio

Toronto, Ontario

TUNE IN "SUSPENSE!"...CBS RADIO THURSDAYS...CBS TELEVISION TUESDAYS

AUTO-LITE

unmatched...

AUTO-LITE *Bull's-Eye*

LAMPS

The new Auto-Lite Bull's Eye Lamp concentrates the stray light into the main driving beam. Factory focused. Sealed under 9,000 pounds per square inch pressure. This new lamp will operate even when lens is cracked or broken. Offers you advantages for more sales. Original factory equipment on many leading cars.

THE
Bull's-Eye
MAKES THE
DIFFERENCE



AUTO-LITE *Silver Line*

CABLE

The new Silver Line is a complete line—featuring silver sheath Steelductor Spark Plug Wire, Flexstrand Primary Wire and battery cable with the new power-line terminal that holds tight. Top quality. Beautifully packaged to sell on sight.



**The Best Advertised Name in the Automotive After Market*

(Advertisement)

"Look Ahead-Plan Ahead- To Get Ahead"

advises Ray...



Reading time: 1 min., 51 seconds

"Look, Ray, you've been working in this grocery since you were eight. You're a partner. You know there's a good living here."

"But I've got a yen to sell these new automobiles, Pa. I know it sounds crazy, but I just got to do it."

Father and son looked at each other, the father silent, knowing with all the logic on his side, he could not win against the call of the new, the challenge of the exciting unknown.

"Tell you what, Pa," Ray said slowly. "If I don't sell twenty-five cars in six months, I'll forget automobiles, never talk of them again—honest!"

"That's the craziest thing you've said yet. There weren't that many cars sold here all last year. Where are you going to sell twenty-five cars, Ray?"



"One of 'em I'm going to sell to you, Pa," Ray grinned.

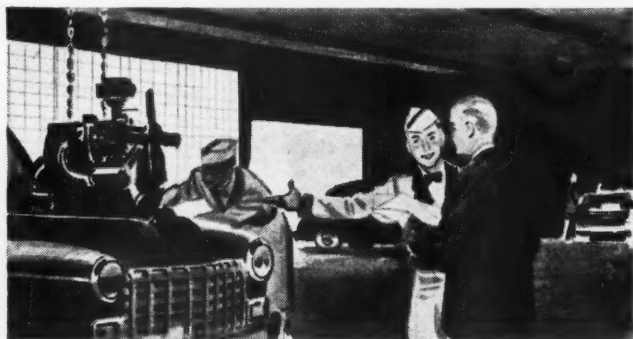
And six months later Ray had reached his goal. The feat had won a spot as manager in a dealership for the newly-formed Dodge Brothers Company. And among his twenty-five customers was Ray's father.

Ray's successful selling was based on a simple lesson he had learned in his father's grocery. Sell a good useful product. Back it with dependable service. He continued piling up records with his vigorous sales pace . . . 1915 . . . 1916 . . . 1917. And Ray was looking ahead, even then. Late in 1917 a dream that had taken shape in Ray's mind came true. His employer decided to retire, and Ray's record won a quick okay from the factory when the dealer proposed that Ray and a mechanic friend take over the dealership.

Through the years Ray's *look ahead, plan ahead* program helped him *get ahead* in a big way. Then came 1942, the war and new problems. His partner, handicapped by ill health, decided to retire, but Ray felt he must keep faith with



his customers and his loyal employees (many had been with him since World War I). So again Ray was looking ahead, planning ahead. "Transportation service," he said, "is going to be more important now than ever. We will continue to sell the best, the best in parts, the best in workmanship." Soon he was servicing other makes of vehicles as well as Dodge and Plymouth cars and Dodge trucks. And so a host of satisfied customers in his district were on his customer list when the new cars returned.



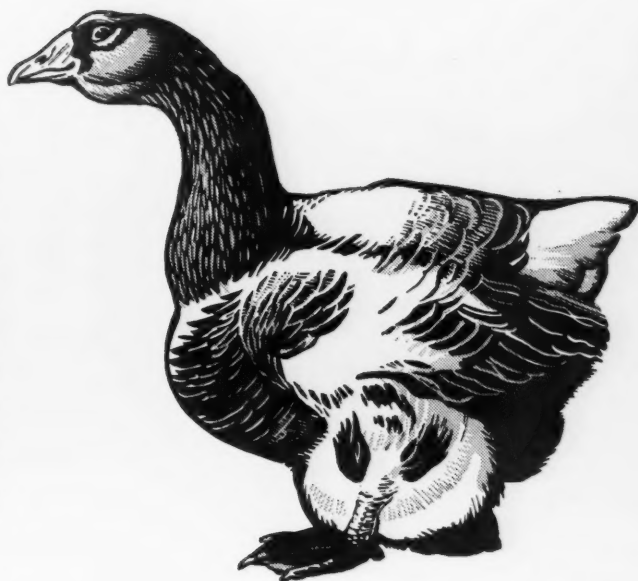
If you talk to Ray today, he will point out to you a hustling young man in his showroom. "That young fellow out there is building himself an opportunity in this automobile business, the finest business in the world. Any young fellow can do it. If he will learn to look ahead and plan ahead, he'll get ahead."

Write for our free booklet containing a number of these stories of accomplishments by enterprising men. Chrysler Corporation, 341 Massachusetts Ave., Highland Park 3, Mich.



Chrysler Corporation

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS
Fine Cars of Great Value

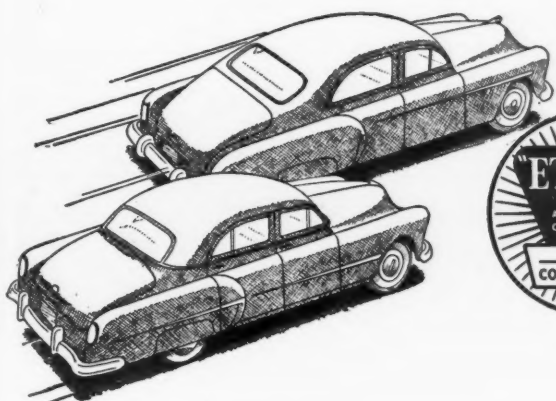


There's a big difference between a

panda . . . and a . . . gander

—and there is a powerful difference, too,
between performance and “ETHYL” performance!

TRADE-MARK



Yes, there's a powerful difference between the performance of an engine using just gasoline and one using “Ethyl” gasoline. When you set the timing to take full advantage of “Ethyl” gasoline's higher antiknock quality, your customer gets “Ethyl” performance—more power, quicker starting, more mileage. And you get happier, more satisfied customers.

ETHYL CORPORATION, New York 17, New York

Other products sold under the “Ethyl” trade-mark: salt cake...ethylene dichloride...sodium (metallic)...chlorine (liquid)...oil soluble dye...benzene hexachloride (technical)

Conformability in Piston Rings

IMPORTANT IN NEW ENGINES

ESSENTIAL IN RE-RING JOBS!

The effort to develop more power . . . without increasing engine weight, engine cost, or consumption of fuel and oil . . . has naturally led to higher compressions, and, in turn, to higher heats and increased tendency to block distortion.

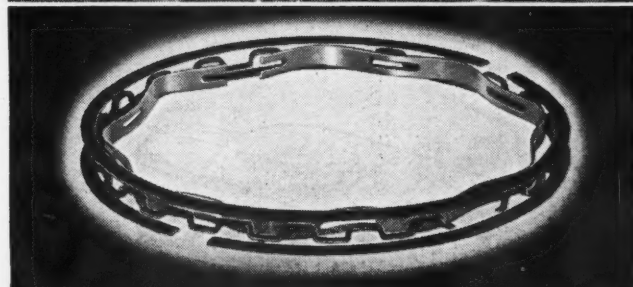
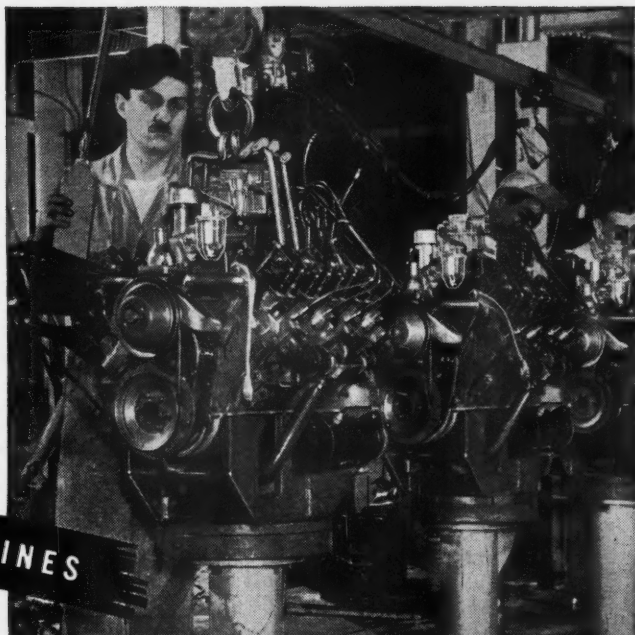
For this reason, rings that are highly conformable are more important than ever before in the manufacture of new engines. Obviously this holds true to an even greater degree in worn engines. Whenever cylinders become distorted or out-of-round, conformability in piston rings becomes vital. The control of blow-by and the maintenance of compression require the most conformable piston rings that can be had—and Pedrick has them! Get Pedrick rings in guaranteed Engineered Sets from your Pedrick jobber. WILKENING MANUFACTURING CO., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Company (Canada) Ltd., Toronto.

Pedrick
"HEAT-SHAPED"

PISTON RINGS

IN GUARANTEED ENGINEERED SETS

FOR 31 YEARS, SUPPLIER OF PISTON RINGS TO
LEADING VEHICLE AND ENGINE MANUFACTURERS



**Here's Conformability—
THE 554 OIL RING**

- Conforms more readily to tapered and out-of-round cylinders
- Adapts itself to groove depth variations better than any other ring
- Greatest capacity to store and drain oil
- Most uniform pressure distribution
- Outlasts other oil rings by a wide margin

USE

Grey-Rock

BALANCED BRAKSETS

BALANCED TRUCKSETS

to balance performance with expectations...



BALANCED BRAKSETS
for passenger cars

BALANCED TRUCKSETS
for light and medium trucks

Consistently advertised in **POST** and **Country Gentleman**



Only

Grey-Rock

makes BALANCED BRAKSETS and TRUCKSETS

GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings
Fan Belts • Radiator Hose • Packings • Mechanical Rubber Products • Rubber Covered Equipment
Asbestos Textiles • Powdered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

only **Porto-Power** for the profit jobs



... the ONLY COMPLETE line of necessary hydraulic rams

Only "Porto-Power" gives you the right size and style of hydraulic ram *for each type of body damage and body style!* And — thanks to the patented "Spee-D-Coupler" — you can make a quick-switch of rams in 30 seconds. One low-cost pump and hose serve all rams pictured here!

There's NO DEAD END to what Porto-Power can do !

New cars, replacement body-sections and expert body men *are sure to be scarce . . .* making it vital that you have the absolute *best* in rebuilding equipment! That's why it's so *extremely important* that you choose "Porto-Power" for your body shop. It's the *only* hydraulic equipment that can *completely* and *profitably* handle the big job ahead.

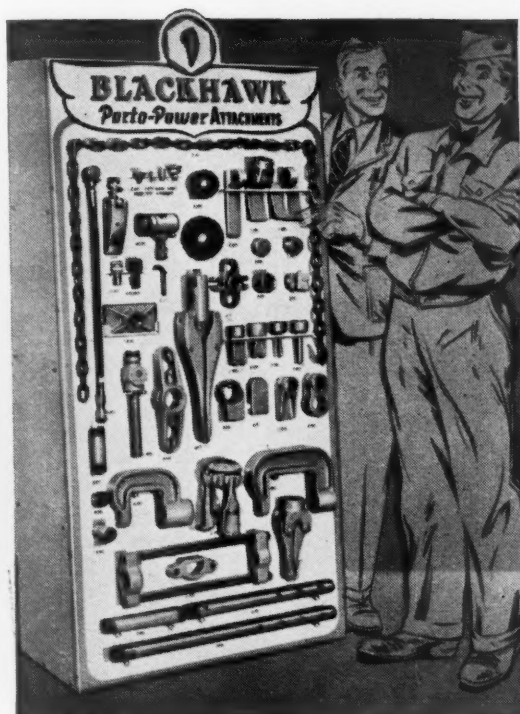
- Salvage MORE body sections!
- Cut costs — offer the best bids!
- Make more profit on used cars!
- Save time of valuable men—keep 'em happier!

**FIRST
CHOICE**
in over 90%
of all body
shops

**PORTO-POWER
IS PROFIT POWER**

only **BLACKHAWK** makes

has "EVERYTHING" ahead of you!



...the ONLY COMPLETE line of vital body-work attachments

You can PUSH or PULL *more ways* with "Porto-Power" — and do it faster, much easier! Only Blackhawk offers ALL the basic attachments which body men demand. This Jobber Display (left) dramatizes the "Porto-Power" completeness that spells *profit-power* for your shop.



More true today than ever: there's no substitute for "Porto-Power"

New developments (*which body men themselves demanded and helped us design*) keep "Porto-Power" years ahead of *all* other body jack equipment. Today, the body shop has greater work-schedules plus new responsibilities and opportunity. And, the superiority of "Porto-Power" adds up to *even more income* . . . profits you can't get with *any* other equipment! See your jobber for "Porto-Power".

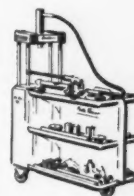
"Porto-Power" is the exclusive (trade name registered) product of Blackhawk Mfg. Co., Dept. P631, Milwaukee 1, Wis.

Porto-Power®

Chilton's MOTOR AGE, MARCH, 1951

If it doesn't offer you all this —It's not a "Porto-Power"

- ☐ A full-range of hydraulic rams in essential sizes and capacities!
- ☐ The ability to PULL with FULL POWER!
- ☐ Easier handling . . . a single hose with a *revolving* coupler and All-directional rams!
- ☐ Interchangeability of rams . . . one low-cost pump and one low-cost hose serve a whole range of rams.
- ☐ Spreaders with built-in hydraulic rams . . . for greater compactness, faster setups.
- ☐ The *complete* line-up of body-work attachments for every type of body damage.
- ☐ Exclusive, specialized attachments for shop service *other* than body work!



BIG PROFITS IN TURN SIGNALS!

ALCO

Feature the New
ALCO TURN SIGNAL
CONVERSION KIT
with the Automatic
SELF-CANCELLING SWITCH
FOR FRONT AND REAR LIGHTS

**ADDS DIRECTIONAL
SIGNALS TO PRESENT
FRONT AND REAR LIGHTS**

Quick and simple to install. No holes to drill. Socket conversion units are exact duplicates of manufacturer's standard equipment. Colored connecting wires with snap-in tips assure easy identification. ALCO's self-cancelling switch automatically cuts off the signal after the turn has been made. Can also be operated manually.

CUSTOM BUILT TO FIT MOST POPULAR CARS

Each KIT contains:

AUTOMATIC SELF-CANCELLING SWITCH,
SOCKETS, BULBS, FLASHER, INLINE FUSE,
ALL NECESSARY WIRING

STATE APPROVED

STANDARD SWITCH of baked enamel on die cast body with chrome handle.

DE LUXE SWITCH highly polished all chrome.

ALCO DIVISION OF

AUTO LAMP Manufacturing Co.

2909 Indiana Ave., Chicago 16, Ill.

SOLD ONLY THROUGH AUTHORIZED JOBBERS

ALCO

**NOW'S
THE TIME
TO ORDER!**

EXTRA PROFITS plus SPECIAL BONUS...

with WHIZ RADIATOR SPECIALTIES!

You'll be all set for radiator servicing profits this spring when you sell WHIZ radiator conditioners. They're WHIZ quality products through and through—fast-acting, extra-effective, and guaranteed to give the kind of satisfaction that brings customers back for more.

Ask your jobber for WHIZ radiator products—and get the special dealer bonus offer! Order now! If your wholesaler does not have WHIZ Radiator Products, ask him to stock them for you.

WHIZ KLEEN-FLUSH *CLEANS*

Powerful acid-type cleaner dissolves rust, scale, sludge and corrosion. No reverse flushing needed. Conditioner neutralizes acidic action.

WHIZ RUSTOP *PROTECTS*

Both a *rust preventive* and a *water pump lubricant*! A soluble oil-type product with extremely effective anti-rust properties. Excellent lubricant for sealed water pump systems.

WHIZ INSTANT SEALER *SEALS*

Seeps into all places where leaks occur, and seals leaks solidly even after water is drained. Will not clog or harm cooling systems in any way.

YOURS AT NO EXTRA COST MAGNAGRIP Knife and Tool Holder

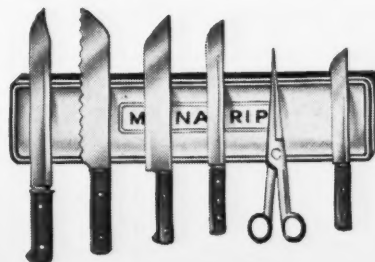
Permanent magnet holds 7 to 10 knives or tools, heavy or light, for handy, safe availability. The MAGNAGRIP protects knife edges, keeps tools in view. Heavily plated with beautiful white enamel finish. Easy to keep clean. 2" wide x 9" long. Retail at \$3.49 everywhere.

For the Kitchen • For the Garage • For Sewing Room • For Home Workshop

WHIZ BONUS DEAL 51-CS

YOU BUY 1 doz. Kleen Flush.....	\$ 9.00
1 doz. Rustop.....	7.20
1 doz. Instant Sealer.....	4.68
BONUS—MAGNAGRIP Holder.....	3.49
Regular Dealer Value.....	\$24.37
YOUR SPECIAL DEALER PRICE—ONLY	\$20.88

(MAGNAGRIP also available with any other full case assortment of WHIZ Radiator Products, totaling \$21.00 or more.)



(Tools not included)



Member of N.E.M.A.
N.S.P.A. and A.E.R.A.



R. M. HOLLINGSHEAD CORPORATION • Camden 2, N. J. • Canadian Offices: Toronto
LEADER IN MAINTENANCE CHEMICALS Warehouses: Dallas, San Francisco, Chicago

open road
to profit *in the big*
driving season ahead

Motorola

AUTO RADIOS

**the new 1951
Motorola Auto radios
are better than ever**

And the season coming up is great for auto radio sales! People will be on-the-go wanting to hear their favorite radio programs as they travel. Be set for this big boom season with a stock of the newly designed, newly engineered 1951 Motorola Auto Radios that are the best yet! Big advertising campaigns will get customers to recognize the name Motorola as a leader in the line, and you'll recognize Motorola as the most profitable, easy selling, trouble-free auto radio for this big market.

**easy to sell features
like these' . . .**

BROAD RANGE ANTENNA SYSTEM
PATENTED MOTOR NOISE FILTER
AUTOMATIC VOLUME CONTROL
RUGGED CONSTRUCTION
BRILLIANT STUDIO TONE
TOP QUALITY SPEAKERS
LOW BATTERY DRAIN

**for most
cars & trucks
easily installed**

write...
wire...
or phone your Motorola
distributor today...

Ask for copy of new
instruction manual

NEW
all-thru
Motorola
AUTO RADIOS

MOTOROLA INC., 4545 Augusta Blvd., Chicago, Ill.



...THE INSIDE STORY OF THE "FLYING DISCS"...

People say that they've seen flying discs.

They say they're bright shiny metal, 90 feet in diameter, and travel at incredible speeds. Reports about them always seem to make page one.

Another kind of "flying disc" that never rates a headline is made of black wax. It's about 16 inches in diameter, and it, too, flies at incredible speeds.

We're speaking of radio transcriptions that fly by Air Express.

They don't get page-one mentions because, by now, the idea of flying discs to the various stations is commonplace to the radio industry. The time they save permits them to keep their recorded broadcasts right up to the minute.

But, you don't have to be in radio to profit from the regular use of Air Express. Here are unique advantages which any business can enjoy:

IT'S FASTEST—Air Express gives the fastest, most complete door-to-door pick up and delivery service in all cities and principal towns, *at no extra cost.*

IT'S MORE CONVENIENT—One call to Air Express Division, Railway Express Agency, does it all.

IT'S DEPENDABLE—Air Express provides one-carrier responsibility all the way and gets a *receipt upon delivery.*

IT'S PROFITABLE—Air Express expands profit-making opportunities in distribution and merchandising.

Like to know more? Call your local Air Express Division of Railway Express Agency.

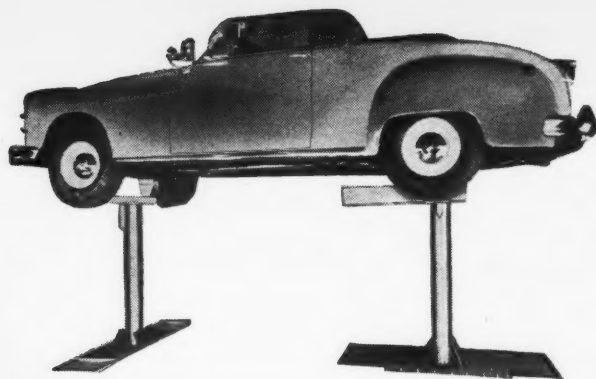


More Profits
Through Greater Shop
Efficiency — Install

CURTIS

**AUTOMOTIVE
SERVICE EQUIPMENT**

97 YEARS OF "KNOW HOW" BUILT IN

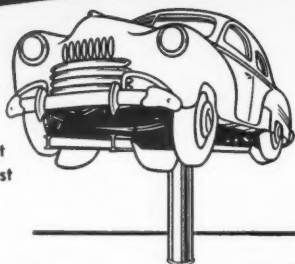


CURTIS FULL HYDRAULIC TWO-POST LIFT

HAS THESE ADVANTAGES:

- No deep pit
- 60-inch wheelbase range
- Plunger travels 72 inches above floor (tallest men work in complete comfort)
- Front and rear steel frames shipped with doors and door operating mechanisms completely assembled. (Easy installation.)
- No obstructions above floor

ALSO, Single post
rotating lifts for
passenger cars and light
trucks. Single or two-post
for busses and trucks.



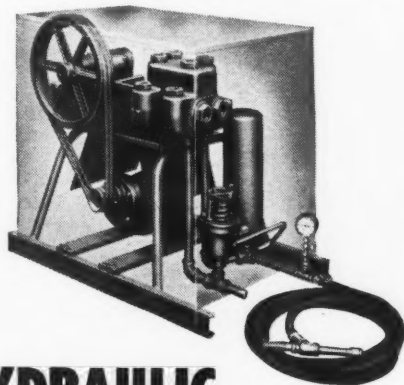
AIR COMPRESSORS

Electric or Gasoline
Motor Driven.

Vertical or Horizontal
Tank Mounted.



See your
CURTIS jobber
or use coupon
below for complete
technical information.



HYDRAULIC CAR WASHER

(300 Pounds Pressure)

For better and faster car washing; more cars are
washed per day—more profits for you.

A-51-2

CURTIS PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company
1946 Kienlen Avenue, St. Louis 20, Missouri



I am interested in items checked: Name.....

☐ AIR COMPRESSORS Firm.....

☐ AUTO LIFTS Single Post ☐ Two Post ☐ Street.....

☐ POWER CAR WASHERS City.....Zone.....State.....

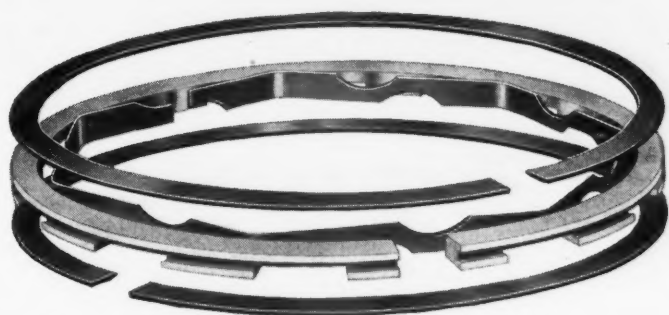
CURTIS

PNEUMATIC MACHINERY DIVISION
of Curtis Manufacturing Company

1946 Kienlen Ave. • St. Louis 20, Mo.

MOOG X-PLUS PISTON RING SET...

#5-521A



Brings back

FULL POWER

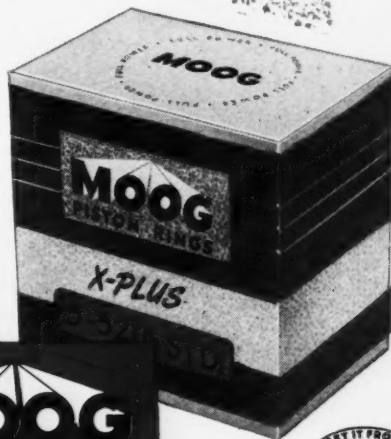
IN FORD & MERCURY MOTORS

FORD 1946-48, 8 cyl. 100 H. P. • MERCURY 1946-48, 100 H. P. (4 Ring Piston)

This is the piston ring set that expert mechanics depend on to control oil, stop blow-by and eliminate costly comebacks. Designed to do the job—and do it right. Next time try Moog #5-521A in that Ford or Mercury job. You want to please your customers, and this Moog FULL POWER piston ring set does that.

MOOG PISTON RING CO., ST. LOUIS 14, MO.

Division: MOOG INDUSTRIES, INC.



© 1951 M.I.I.



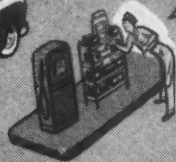
Exide has **EVERYTHING**

**"Alert
DEALER
SERVICE!"**

**"Extra
LONG LIFE!"**

**"FACTORY-
FRESH
stock!"**

**"Surplus
STARTING
POWER!"**



"WHEN IT'S AN Exide YOU START"



Get acquainted with the Exide Dealer. He knows batteries and battery service. And his modern equipment takes all guesswork out of testing and servicing. You can rely on his advice.



THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32
Exide Battery Company, Limited, Toronto

Everything

for EXIDE DEALERS too

GREATEST MAGAZINE ADVERTISING CAMPAIGN in storage battery history.

FEATURES EXIDE DEALERS...leads off with sales-boosting advertisement, opposite page.

CONTINUES REGULARLY THROUGHOUT 1951 in 7 outstanding magazines which reach . . .

64,798,600 READERS OF...

THE SATURDAY EVENING POST . . . LIFE . . .
COUNTRY GENTLEMAN . . . COLLIER'S . . . FARM
JOURNAL . . . TIME . . . PROGRESSIVE FARMER . . .

THE ELECTRIC STORAGE BATTERY COMPANY

Philadelphia 2

Exide Batteries of Canada, Limited, Toronto



Plus

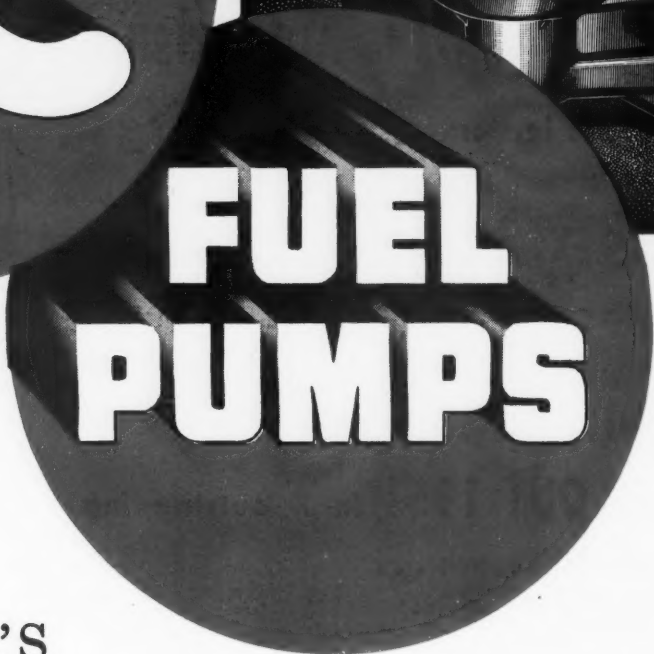
The GREAT NEW EXIDE BATTERIES that motorists want to buy.

EXIDE SURE-START PROGRAM with time-saving tools and equipment.

SELLING AIDS that assure quick, easy, profitable battery sales.

ATTENTION-WINNING point of sale displays.

SEE THE EXIDE DISTRIBUTOR



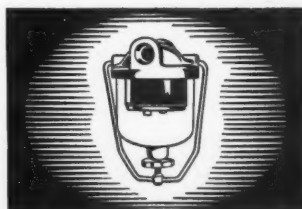
AMERICA'S First and Finest...

- Nine out of ten of all American automotive vehicles have been factory-equipped with AC's.
- More than 100,000,000 have been built . . . more than 40,000,000 are in daily use.
- They are the *original* and still the best fuel pumps.
- They are priced right.



AC FLEXIBLE GASOLINE AND OIL LINES

Also Make-up Kit, complete with 12 feet of hose and variety of fittings.



AC GASOLINE STRAINERS

Packed in Counter Merchandiser for display and easier sales.

Original Equipment Leadership . . .

- They are factory-installed on nearly half of all new American cars.
- They have patented *CORALOX* Insulator for highest efficiency performance.
- They are built in types and sizes for every gasoline engine.
- They are outstanding in quality and reliability.



AC Aluvac Oil Filter Element



Fastest Growing Oil Filter Line . . .

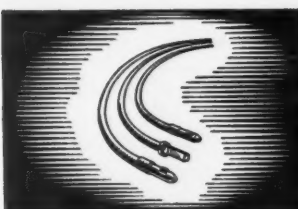
- AC Oil Filters with *Aluvac* Elements are standard factory equipment on Buick, factory-installed accessory on Oldsmobile, and factory-approved for field installation on Chevrolet and Cadillac.
- AC *Aluvac* Elements are also available for most other makes of filters.
- The amazing new AC *Aluvac* Element has 10 times the filtering area of the average element, and traps dirt 1/100,000 of an inch in size.
- They carry the AC name and the AC reputation of foremost quality.

AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION



AC AIR CLEANERS AND ELEMENTS

AC Air Cleaners used as equipment by 80% of car manufacturers.



AC SPEEDOMETER CABLE-CASING ASSEMBLIES

Also tailor-made cables, or bulk cable and casing, with parts.

DALLAS, TEXAS

John H. Rogstad,
owner of...



East Grand Automotive, 5325 East Grand Avenue,
Dallas, Texas...

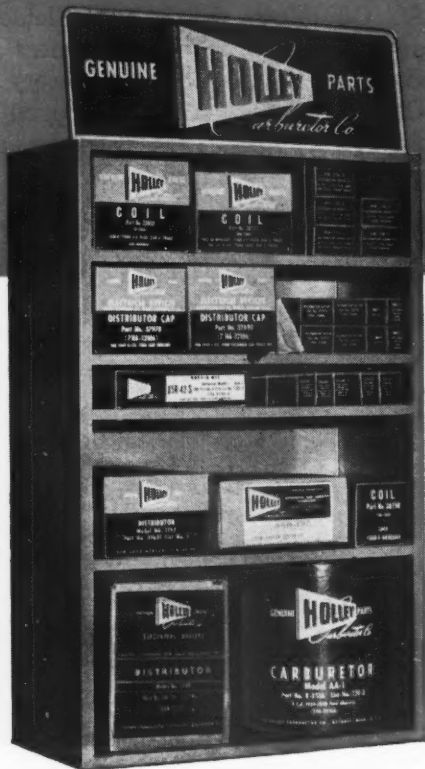


has prominently featured Holley equipment and
has had a highly profitable turnover from the

85R-176 Original Equipment Holley Package

"Holley's '176' is the cleanest, most profitable
deal I've ever had," says Rogstad.

RT-8



5930 VANCOUVER AVENUE, DETROIT 4, MICHIGAN

FOR HALF A CENTURY—ORIGINAL EQUIPMENT MANUFACTURERS FOR THE AUTOMOTIVE INDUSTRY

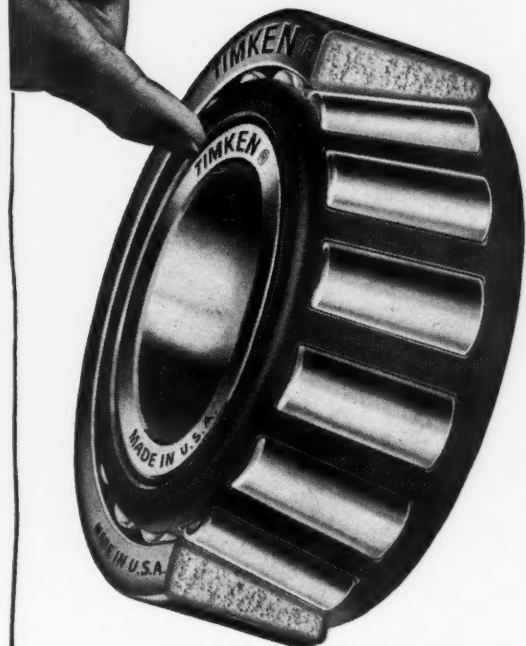


How to make customers stick to you

No glue needed. Just stick to the best replacement parts and your customers will stick to you. Your customers know

and respect Timken® tapered roller bearings. Make sure they know *you* use Timken bearings.

Just tell 'em it's "TIMKEN"®!



Timken bearings are first choice with automotive manufacturers, too! That's because Timken bearings are made of Timken fine alloy steel, and manufactured to amazing precision under the Timken Company's rigid, complete quality control.

When you replace a tapered roller bearing, make sure you use a *Timken* bearing. And don't forget to show your customers the trade-mark "Timken" that's stamped on the bearing. **FREE BOOKLET!** Send today for "*Timken Tapered Roller Bearings, Their Care and Maintenance*". Write Dept. AM-3, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

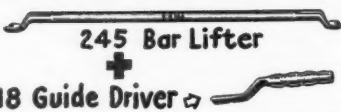
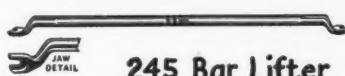



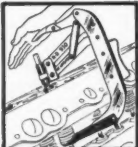




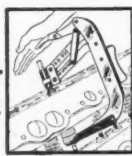








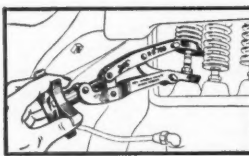





NOT JUST A BALL ○ NOT JUST A ROLLER □ THE TIMKEN TAPERED ROLLER □ BEARING TAKES RADIAL AND THRUST — LOADS OR ANY COMBINATION





with
K-D TOOLS
 you can service valves in
ANY FORD-BUILT MOTOR

Here are the correct combinations for removing and replacing valves in any motors built by Ford since 1928. Step-by-step servicing procedure in K-D Valve Service Bulletin #150.

MODELS	TO REMOVE	TO REPLACE		
V-8 1932 -'33	 245 Bar Lifter + 818 Guide Driver	 245 Bar Lifter		
All other V-8 - (except 60 h.p. and 150 h.p.)	 920 Valve Guide Puller Set Consists of 917 Driver and 918 Puller	 245 Lifter OR  925 Replacer		
1949-50 V-8 Optional servicing individ- ual valves without removing guides	 930 Valve Spring Compressor	 930 Compressor +  608 Valve Keeper Inserters		
V-8, 60 h.p.	 860 Valve Guide Puller Set	 260 Bar Lifter		
V-8, 150 h.p. Truck and Lincoln 1949-50	 930 Com- pressor to raise spring	 935 Com- pressor removes spring	 930 and 935 Compressors +  608 Inserters	 609 Inserters for free- type valves
Lincoln-Zephyr and 4 cyl. (late); Tractor to 1949	 920 Valve Guide Puller Set	 925 Replacing Tool (These engines have no "heel" to rest a bar lifter)		
6 cyl. to 1948	 920 Set +  923 Adaptor			
6 cyl. after 1948 (except 110 h.p.)	 700 Valve Spring Lifter	 700 + 608 Keeper Inserters		
6 cyl. Truck 110 h.p. 1950		 700 + 609 Keeper Inserters		
4 cyl. Models A, B	 307 Lifter +  502 Guide Driver	 307 Lifter		

K-D TOOLS Make Hard Jobs EASY!

K-D MFG. CO.
 LANCASTER, PA. HAMILTON, ONT.



Save man-power with the right adhesive for every auto repair job!

Your men can do better work faster—with no delays or mistakes—if you provide them with a complete line of 3M *Specialized* Adhesives.

The modern body shop is called upon to service metal, fabrics, glass and rubber—and to do each job right the first time! There's no such thing as an "all-purpose" adhesive

for these autobody jobs. You need the *specialized* adhesive for each material, each type of work.

Look over the 3M family of Autobody Adhesives; see how each one is tailor-made to do a specific job better—with fast, clean one-call service. Then order a supply from your 3M jobber today.

- "3M" Weatherstrip Adhesive
- "3M" Special Weatherstrip Adhesive
- "3M" Trim Cement
- "3M" Autobody Deadener
- "3M" Clear Glass Sealer
- "3M" Felt Pad Adhesive
- "3M" Body Caulking
- "3M" Convertible Top Sealer
- "3M" Metal Filler

You'll save time, money, labor...with these 3M Autobody Abrasives, Tapes and Coatings

"SCOTCH" Brand Wetordry® Masking Tape • "SCOTCH" Apron Taper • "SCOTCH" Electrical Tape No. 33 • "3M" Type A and B Discs • "UNDERSEAL" Rubberized Coating

Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Abrasives. General Export: Durez Abrasives Corp., New Rochelle, N. Y. In Canada: Canadian Durez Abrasives Ltd., Brantford, Ontario.



Sell 100% more protection

Why

today's driving conditions require this revolutionary new battery!

1

You're driving more than ever before—more mileage means more battery wear.

2

Your battery is being charged more—not only over more miles but, also, at higher rates.

3

Higher compression motors are here—they require more battery starting power.

4

Today, batteries are under the hood—and under-the-hood batteries must withstand under-the-hood temperatures.



WILLARD STORAGE BATTERY COMPANY • Cleveland • San Angeles • Dallas • Memphis • Portland • Toronto

New Willard Super

against the No.1 battery killer

with Willard

METALEX

PRODUCTION EXPANDED
to meet the demand for
Willard Super Masters

So great has been the demand for the Willard Super Master, that some dealers have been unable to keep it in stock. But now production facilities have been expanded—more Super Masters are being delivered to Willard Dealers every day!

Thousands of car owners have bought the Willard Super Master—thousands still need it. See your Willard Distributor today!

greatest battery improvement in 25 years!

Today, OVERCHARGING is the No. 1 battery killer. More batteries are worn out from this one cause than from all other causes combined! Overcharging strikes directly at the grids—the lead-alloy framework which holds in place the current-producing active material. Overcharging *corrodes* the grids—*fractures* them—*destroys* their ability to retain active material—*destroys* their utility as current conductors.

But now METALEX—a new and vastly superior grid metal has been developed and perfected by Willard metallurgists specifically to combat damage by overcharging. And METALEX does so—stubbornly, effectively. METALEX provides a full 100% more protection against the No. 1 battery killer! METALEX l-e-n-g-t-h-e-n-s battery life. Available exclusively in Willard Super Master Batteries!

<p>NEW</p>  <p>THE METALEX GRID with these plus features MAKES THE NEW WILLARD SUPER MASTER CUSTOM-BUILT FOR TODAY'S DRIVING CONDITIONS</p>	<p>NEW</p> <p>IMPROVED CONTAINER FOR LONGER LIFE</p>  <p>New design—heavily reinforced at points of stress. Withstands high under-the-hood temperatures.</p>	<p>NEW</p> <p>IMPROVED SEALING COMPOUND FOR LONGER LIFE</p>  <p>Will neither crack in winter nor melt in summer. Withstands high under-the-hood temperatures.</p>	<p>NEW</p> <p>IMPROVED ACTIVE MATERIAL FOR QUICKER STARTS</p>  <p>So much more chemically active, that snap starts are assured—even in cars powered by new higher compression motors!</p>
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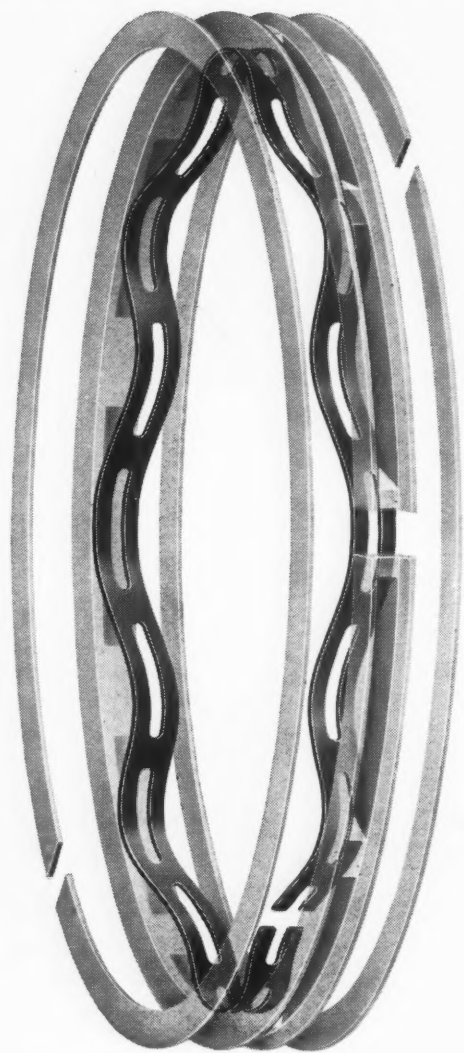
Master with METALEX

Sealed Power

MD-50 STEEL OIL RING

The only ring with the **FULL-FLOW SPRING**

**BEST FOR OIL CONTROL EVEN IN
BADLY TAPERED AND OUT-OF-ROUND BORES**

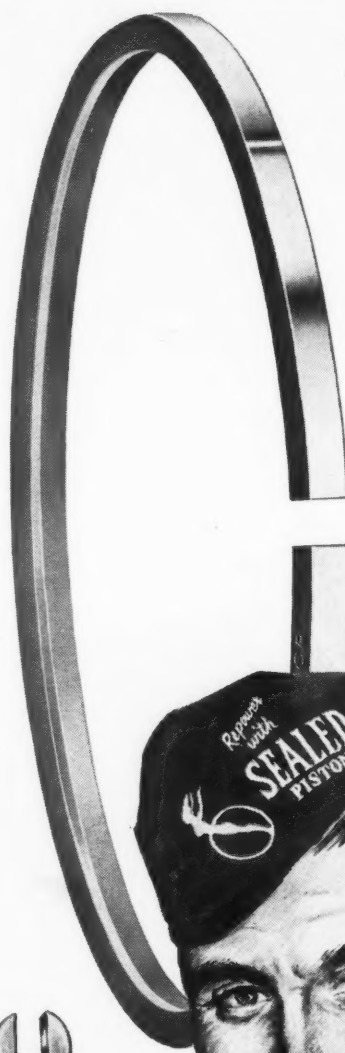


Sealed Power

CHROME-FACED RINGS

for triple mileage

**LATEST SCIENTIFIC DEVELOPMENT TO FIGHT
HEAT, FRICTION, CORROSION, ABRASION**



Hailed as masterpieces by good mechanics



SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW CARS!

BEST IN OLD CARS!



MOTOR AGE

March • 1951



457,000 Prospects in Chicago . . .

newscene..

Chicago Auto Show Proves it is "The National"

The Chicago Automobile Show held Feb. 17 through 25 was an outstanding success, and certainly today, is the National Automobile Show of the country. In scope, entertainment features, decoration, and general organization, the Chicago Show parallels the prewar expositions held by the industry in Grand Central Palace in New York City. Every manufacturer of passenger cars and most trucks were represented at the Show held in the International Amphitheater, one of the few places in the country with adequate floor space for such an exposition. The Chicago Automobile Trades Association has taken the play away from other cities with its aggressive promotion of the Show, which was attended by 457,000 persons. Last year the show drew 478,000. In connection with the Show, all the major automotive companies held dealer meetings and entertained guests. Exhibits at the show were estimated to be worth more than \$5 million. Since the end of the war each year there has been dis-

cussion about an Industry National Show, similar to those held in New York in prewar years, but nothing has developed. There has been considerable sentiment for moving the show to Detroit, but adequate facilities do not exist there, and considerable money would have to be spent to develop suitable space. It certainly looks as though, for the time being at least, Chicago will be the site of the nearest thing to a national automobile exposition.

Repair Parts Makers Assured of Material

Automobile repair parts makers are to be assured of enough materials to meet essential needs. NPA is setting up a so-called "M.R.O." order to provide steel for maintenance, repair, and operating parts, including automobile repair parts. The parts industry advisory committee has presented NPA with an estimated list of requirements of steel, rubber, copper, and other materials needed for replacement parts this year. They said that these requirements would amount to more than 2.5 million tons this year, 12 per cent greater than in

1950 and 2½ times as much as was needed in 1941. It also is known that NPA is making provision for automobile repair parts in its controlled materials plan which now is being prepared for introduction about July.

Scarcity Apparent in Radios and Heaters

Radios and heaters are becoming scarcer because of the limitation orders affecting use of copper. One of the Big Three has stopped shipping radios and heaters to its wholesale outlets because they can scarcely obtain enough of these items for installation on new cars on customer order. Another company is able to supply its dealers with radios, but heaters are on the critical list, and certain other unspecified parts are also critical. Small motors used in heaters are very difficult to get and, because heater cores contain considerable copper, they are in extremely short supply. Another large company recently pulled in all its heaters in warehouses from warm weather states to insure enough to meet requirements in cold areas.

H. R. Butts Makes Auto-Lite Presentations

H. R. Butts, right foreground, Sales Manager of the Merchandising Division of The Electric Auto-Lite Co., honors Merchandising Division members who have been with Auto-Lite for long periods. Mr. Butts, shown at New York's Hotel Shelton during the annual meeting of the Eastern Merchandising Division, presents a service award pin to his Assistant Sales Manager, L. B. O'Loughlin.

Others honored were, left to right, Charles Murphy, special representative of the Boston District, a ten-year pin; John Lingle, District Manager of Philadelphia, a five-year pin; Daniel Noe, District Manager of New York, a five-year pin; George Teets, National Fleet Supervisor, a ten-year pin; R. W. Higgins, Manager of the Eastern Merchandising Division, a ten-year pin; Fred Vanzo, Vehicle Replacement Manager, Toledo, a ten-year pin; and A. H. Nickerson, representative in the Albany District, a five-year pin.

Automotive Advertisers Will Have Booths at Show

According to an announcement by Walter A. Kirkpatrick, Wilkening Manufacturing Co., Philadelphia, Pennsylvania, Chairman of Automotive Advertisers Council's Committee on Industry-Wide Advertising, the council will have a booth at the Pacific and Southwest Automotive Shows, which are scheduled for Seattle, Washington, March 21-24 and Oklahoma City, Oklahoma, April 26-29, 1951. Decorations for both these shows will be built around the slogan "Get It



Auto-Lite Honors Old Timers . . .

From Your Jobber" similar to the theme decoration of the 1950 A. S. I. Show.

The feature of the booth will be a complete display of the "Care Will Save Your Car" Program material currently being made available to all service shops of the nation through automotive jobbers enrolled in the "GET IT FROM YOUR JOBBER" Program.

The Council's booth will be manned by a competent staff, who will be available to explain the "Care Will Save Your Car" program to members of the trade who will attend these two big regional shows. More than 1400 jobbers and manufacturers are now enrolled in the Industry-Wide Program and in the eleven mid-western states, 161 jobbers are backing the program to help their customers promote their business through a well-planned, low-cost advertising and sales promotional campaign.

Atlantic Refining Adds to TBA Lines

The Atlantic Refining Company, effective March 1, 1951, will mar-

ket the complete Goodyear and Firestone lines of tires, batteries, home and auto accessories, and associated services such as tire recapping. The decision to make this move was reached only after exhaustive studies and experiments which indicated that this method of T.B.A. marketing afforded superior advantages for Atlantic dealers. A portion of Atlantic's marketing territory will handle Goodyear products and the other portion will handle Firestone products. This territorial division is based on the consideration of Atlantic dealer preference in the affected areas.

W. B. Phillips Elected President of Pyrene

Wallace B. Phillips has been elected president of Pyrene Manufacturing Company, Newark, N. J., manufacturer of fire extinguishers, air foam playpipes and systems. He succeeds Edward J. Waring, who, upon his retirement in August, 1950, had served as treasurer, vice president and president.

Man of the Year



Against stiffest competition, the man who owns and drives the world's fastest speedboat, Stanley S. Sayres, Seattle car dealer, won the 1950 title as Seattle's "Man of the Year in Sports".

He won as the owner and driver of *Slo-mo-shun IV*, which last June set the world speed record of 160.-3235 MPH, then went on to win the Gold Cup and Harmsworth races in Detroit, the Martini and Rossi Trophy, and the Medal of the Union of International Motorboating for the greatest boating achievement of 1950.

FTC Issues New Rules For Car Time Sales

General reaction to the recent FTC promulgation of five unfair trade practices in automobile installment sales and financing is that they will have little effect on operations of legitimate dealers. The practices which FTC has prohibited as being unfair are: 1—Misrepresentation by the seller of insurance coverage or rates, or financing costs or rates. 2—Failure to furnish an itemized list detailing total delivered price, accessories or extras, down-payment and trade-in credits, time balance, amount and due date of each installment, insurance cost coverage, and financing charge. 3—Inducing the buyer to sign an installment sale contract or receipt in blank. 4—Use of rate charts to deceive or mislead the buyer. 5—Requiring the buyer to purchase insurance from a particular company when equivalent coverage is available to, and preferred by, the buyer.

PAD Will Not Require Gasoline Octane Cuts

The Petroleum Administration for Defense has changed its mind about requiring refiners to reduce octane ratings of gasoline. Instead, as of late February, the PAD was considering an across-the-board cut in the amount of tetraethyl lead—that is, limiting refiners to a specified percentage of the amount consumed during a suitable 1950 period.

Hollywood Style . . .

Anyone who thinks that a pretty girl just doesn't know engines doesn't know Linda Plannette, who is shown at left with the sleek hot rod car she built herself. Linda, an X-ray technician at Hollywood Hospital, spent three years



For Better Turnover



A novel stunt to advertise battery service paid dividends for Leonard Collyer, a Dorchester, Massachusetts, service manager, as he earned free publicity from a number of Boston newspapers and radio stations besides a substantial boost in business.

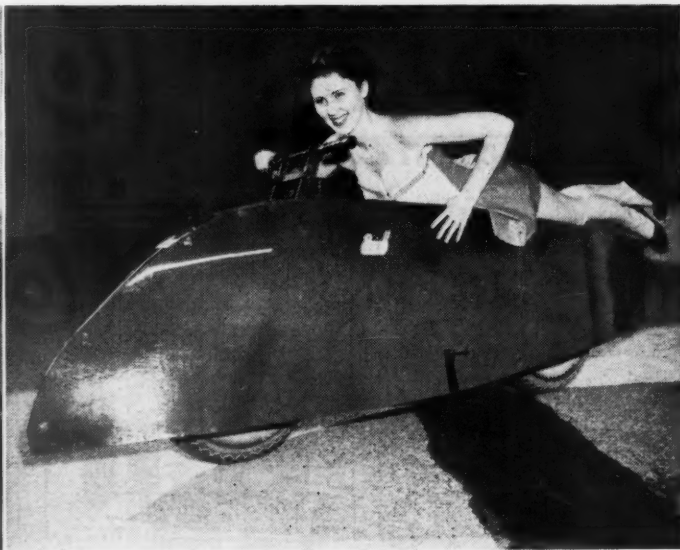
Collyer, who has been long toying with the idea of illustrating such common expressions as "Will your battery turn your car over this morning?" put the first one of these ideas into practice recently. The commotion it caused hasn't died down yet.

1952 Models Keep the Industry Guessing

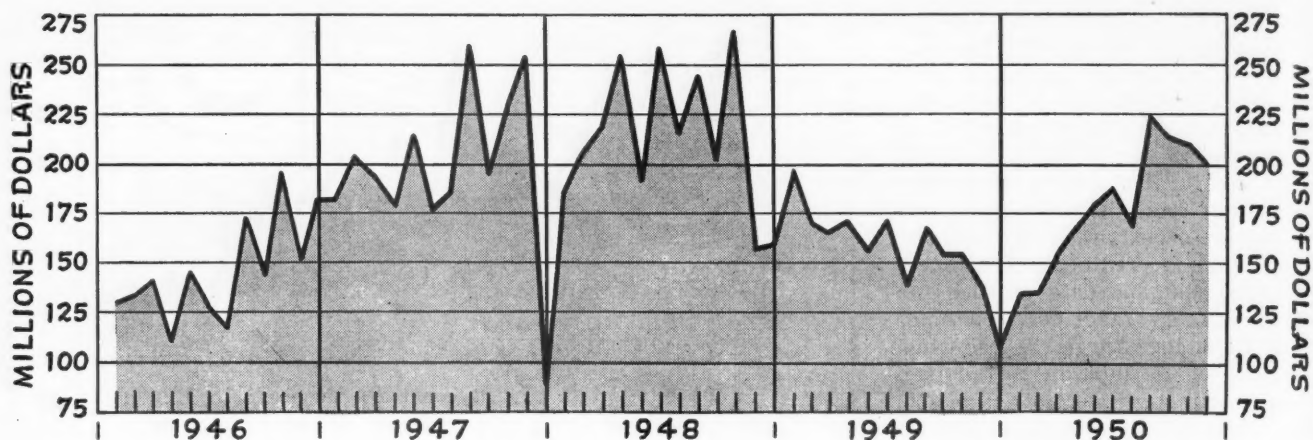
It still is very difficult to make any sort of evaluation about chances for 1952 models to come out as scheduled. Some companies already have cancelled plans for changes in 1952, while others are going ahead in the hope that they

will be able to complete their dies and tooling without interference from defense work. Ford, with a major change scheduled next year, still is proceeding with its plans for new engine plants in Cleveland and Detroit, but has no assurance that it will not be forced to halt its operations.

of her spare time building the car, which can exceed 100 miles an hour. At right is Susan Morrow, hanging on to a unique motor scooter, which is capable of 100 miles an hour. Both the above are on exhibition at the Hot Rod and Motor Sports Show in Los Angeles.



BUSINESS GUIDE



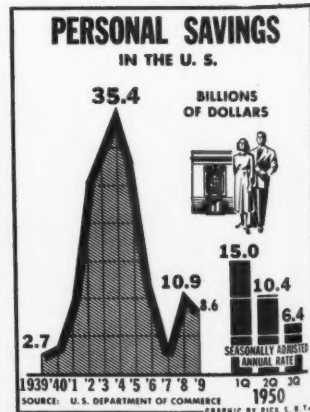
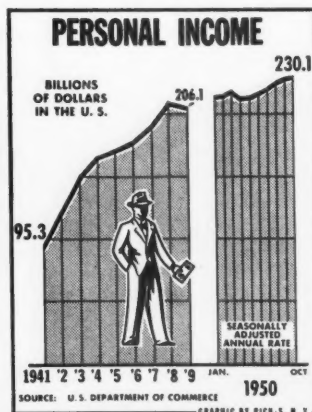
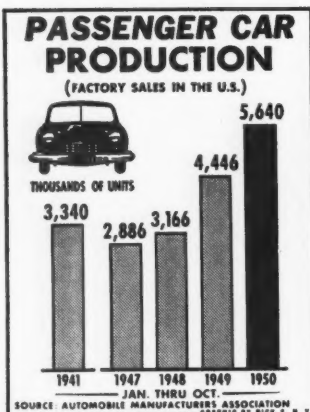
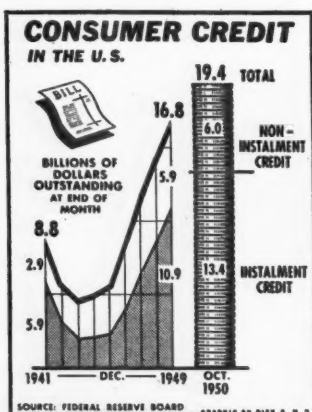
Dollar Volume of Replacement Parts and Accessories Sales

Indicators of Business Activity

These figures are based on latest thirty-day reports

	Latest Data	Month Before	Year Ago	Percentage Change from—	
				Month Ago	Year Ago
PRODUCTION					
Automobiles (Units).....	625,000	640,674	581,362	- 2.45	+ 7.51
Industrial—F. R. B. Index, 1935-1939=100.....	214	216	178	- 0.93	+20.22
SALES					
Manufactures (\$ millions):					
Durable Goods.....	\$10,022	\$9,586	\$6,715	+ 4.55	+49.25
Non-durable Goods.....	\$11,788	\$11,692	\$9,369	+ 0.82	+25.82
Replacement Tires (Units).....	4,198,563	4,140,362	2,940,053	+ 1.40	+42.80
Gasoline (Millions of gallons).....	3,287	3,524	3,077	- 6.73	+ 6.82
Department Stores—Index, 1935-1939=100.....	277	534	216	-48.13	+28.24
New Cars.....	492,000	552,259	381,562	-10.91	+28.94
GENERAL					
Consumers' Price Index.....	178.4	175.6	167.5	+ 1.59	+ 6.51
Civilian Employment.....	59,010,000	60,308,000	56,946,000	- 2.15	- 3.62
Unemployment.....	2,503,000	2,229,000	4,480,000	+12.29	-44.13

The Business Picture at a Glance



... Report to Our Readers



Maintenance Cost No More

Recent studies announced by the American Automobile Association dig into the cost of owning and operating an automobile. Checking the cost for the average guy (10,000 miles a year—normal driving) it is 6 per cent more expensive to own and drive a car in 1951 than it was eighteen months ago. But A.A.A. figures show that it costs no more to service the car today than it did a year and a half ago.

In July 1949—only eight per cent of the cost of owning and operating an auto went for maintenance. In December 1950 the A.A.A. study showed that this important item remained unchanged—only eight per cent.

A.A.A. says the average total of car operation costs this year will be \$861 as compared with \$815 in July 1949. Gas, oil, maintenance and tires come to about \$328 this year on the national average of 10,000 miles driven, as against \$309 in 1949. Fixed costs such as insurance, license fees and depreciation for cars driven under 18,000 miles average \$533, in comparison with about \$506 in 1949.

A.A.A. points out that while these national averages fit a majority of cases, the actual cost of operation will vary with the make and model of car, geographical location, age of vehicle, average speed and total mileage driven.

But their figures tell an important story—it costs no more to keep cars in sound operating condition than it did in July 1949.



Editor's Notebook

L. S. Wescoat, president of Pure Oil Co., pointed out that the latest federal tax proposals threaten the future of the automotive and petroleum industries.

"Some day the American people will have to decide very definitely just how many months of the year they are willing to work for the government," he said.

And added, "We must beware of letting the government become like the policeman who stole all the clothes off a man and then arrested him for indecent exposure."

The National Auto Show

The Chicago Automobile Show which displayed the industry's major product to nearly a half million people last month, bids fair to becoming the national automobile show. Sponsored by one of the most alert dealer bodies, the Chicago Automobile Trade Association, the display of cars, the programming of entertainment and the daily crowds brought enthusiastic compliments from factory executives and other industry leaders. The important thing, too, is that the public was highly pleased with the glamour of the 1951 automobiles and while Chicago dealers can sell all the cars they get, they earned a million dollars worth of good will in the bargain.



The Non-Essential Horseless Carriage

Anyone who derides the automobile as a "pleasure car," a non-essential in the war mobilization drive, is about twenty-five years behind in his thinking.

For the average American workman, the automobile is as essential as take-home pay. Its importance has grown with each working day in a peacetime or war emergency economy.

Time was when we had "pleasure cars"—a delightful term used to attract skeptical buyers to the new-fangled horseless carriage.

The latest "pleasure car" we can recall was the famed Jordan—"Somewhere West of Laramie."

Today automobiles and trucks carry milk and mail, steel and sustenance, soldier and salesman, tradesman, policeman, doctor . . . wage-earner, war-worker and peacemaker. All in usefulness. All essential.

To call the work-day automobile a "pleasure car" is to deny that it is an everyday tool for the average workman and, what's more important, it's a morale booster of the first order.

To keep America productively strong, let's keep America rolling.

Frank P. Tighe

Editor



New Car Leasing

Neither the "worst thing that ever happened to the industry" nor pie in the sky, new car leasing can be profitable legitimate business for any dealer

MORE and more new car dealers are displaying interest in the business of new car leasing, currently one of the most controversial subjects in the entire automotive industry.

We all have seen controversies spring up about the used car business, about new car wholesaling by dealers, and about hundreds of other dealer practices down through the years.

Despite all the discussions, a great many dealers have been outstanding successes in these phases of the business. The same can and will hold true in new car leasing. Properly handled and controlled, the leasing of new cars can be profitable in a new car dealership.

The entire operation, however, must be based on a *normal market with cars to sell*. The present market cannot be termed a normal market in view of the uncertainties we face from day to day.

Under no condition should a car leasing business be started with the idea of evading the terms of Regulation W or any other regulatory



by A. A. Martin
Pontiac dealer, Philadelphia

law we may face in the days ahead. Any such attempt could result in a black eye for you and for the industry. Realizing that new car leasing can be profitable—again, in normal times with new cars to sell—the average dealer is confronted with many problems before taking the plunge.

Some of the many questions that have been asked me are listed here:

1. How many types of leasing are there?
2. What about rates?
3. Who can be considered prospects?
4. What is the best way for my dealership to handle leasing operations?
5. What is the disposal method for the cars used in the operation?

First, let's tackle the types of leasing operations and try to show which one is best suited to the average new car dealer. Briefly, there are three types of rental business:

1. Fleet leasing on a national basis.
2. Short term rental—daily, weekly, monthly.

3. Yearly leasing to companies and individuals.

At first glance, the national leasing program may seem to have the greatest possibilities. However, the investment required and the many complications attached to such an operation will confine this type of business, in my opinion, to a limited number of companies across the nation.

The handling of this type of leasing involves, among other things, securing of the contract, then securing the cars, and the disposal of the automobile wherever it may be at the expiration of the lease or at the time the car is replaced. The disadvantages are apparent.

There are also many disadvantages to the short-term rental type of leasing operations. In addition to being a highly competitive branch of the business, insurance rates are almost prohibitive and cannot be obtained unless your company has other interests using the same insurance carrier.

Elimination of the first two classifications as possibilities for the average dealer leaves us with the third—yearly leasing to companies and individuals. It is in this category that I believe we can operate most effectively. Assuming that we are to have normal conditions once again, I am of the opinion that leasing to individuals, on a yearly basis, may play an important part in the automobile business in the future.

The next problem we face is that of rental rates. This can be answered in the briefest possible fashion—to be profitable, rental rates must compare very favorably with the cost of buying and operating a car. The actual rate will depend on your operation of your dealership, with many factors playing parts. The rates must then be attractive for the right rental prospects.

Who, then, is the right rental prospect? Who should rent a car?

To treat each customer as a lease prospect, regardless of his needs, would be disastrous and

(Continued on page 108)



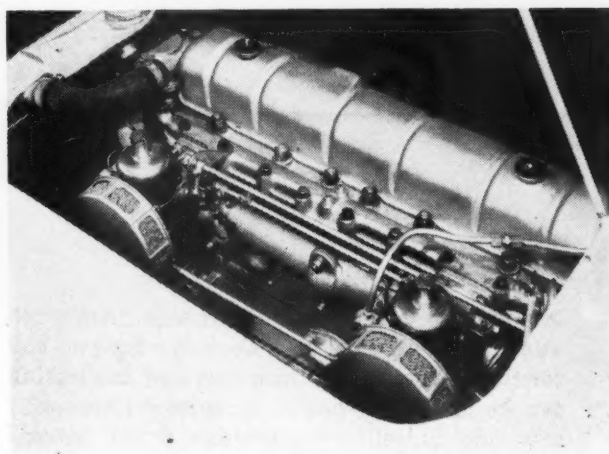
Above: the 1951 Nash Healey, which stands 38 in. from road to hood top.

Below: the Nash Healey Dual jetfire engine, showing the twin carburetors.

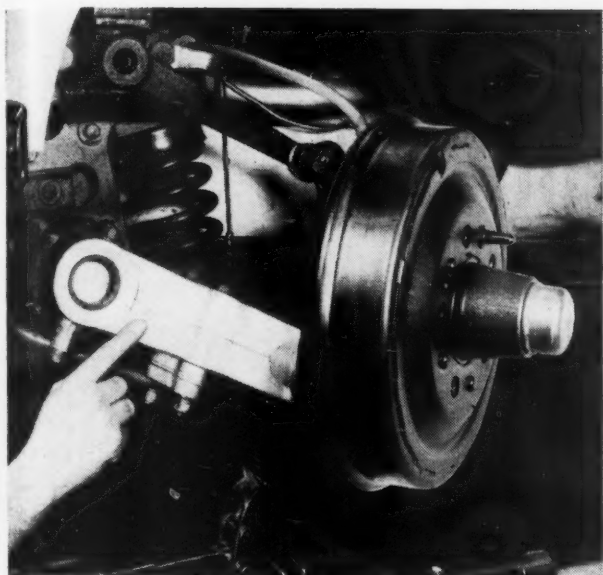
NASH Sports Car

125 mph

Dual carburetion, trailing link suspension and 8.1 to 1 compression ratio are among the features of this new car

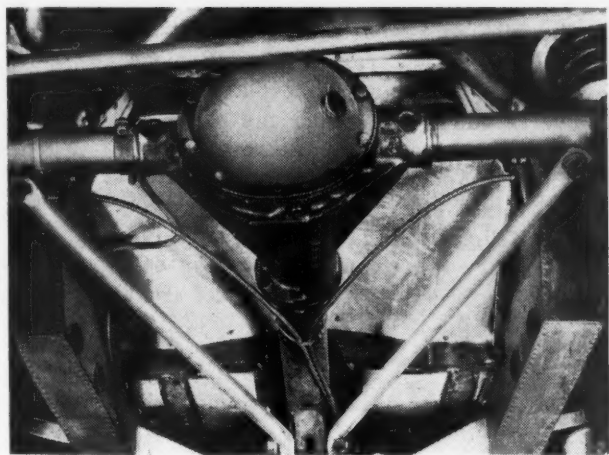


THE 1951 Nash Healey, a two passenger sports car with an estimated speed of 125 per hour, has been announced by Nash Motors. It is powered by the new "Dual Jetfire" Ambassador 6-cylinder high compression engine. It has overhead valves and is specially equipped with an all aluminum racing head and other major modifications for high speeds. Designed to use premium fuel, it has a compression ratio of 8.1 to 1 and develops 125 hp at 4000 rpm. It has two British S.U. horizontal carburetors working in conjunction with an oversized intake manifold.



Left: "the trailing link" front suspension is in the Nash Healey. Each wheel is mounted on "swinging arm" pivoted ahead of the wheel center line.

Below: the box section frame of the rear suspension, as seen here in this underside view of the rear end. Notice the two cross members, the upper of which is a part of the body.



The engine's sealed-in intake manifold passages are formed directly in the main engine castings, water-cooled on two sides, providing even gasoline distribution and improved temperature control. This temperature control is said to make possible more efficient use of higher compression ratios by obtaining more power from the gasoline. The construction of the chassis utilizes the Healey "trailing link" front end suspension which is claimed to provide excellent road holding, cornering and driver responsive handling characteristics. Coil spring suspension is used at all wheels. In the front end suspen-

sion of the car each wheel is mounted on a "swinging arm," pivoted ahead of the wheel centerline. This arm is cushioned against a coil spring.

Rear suspension of the Nash Healey employs coil springs combined with direct acting shock absorbers mounted in towers attached to the chassis frame. This suspension is similar to that used in current Nash Ambassador models with modifications in spring design and shock absorber calibration to accommodate the weight and operating characteristics of the Nash Healey. It has a torque tube type drive which makes possible coil spring suspension at the rear. The axle ratio is 3.54 to 1. With over-drive this gives an over all engine-to-wheel ratio of 2.48 to 1 in high gear.

The front grille of this car follows the design of the familiar Nash "Airflyte" chrome barred racing air scoop. Body panels, as well as many structural parts, are made of aluminum. The car has a curb weight of about 2600 pounds and a wheel base of 102 inches, an over all length of 170 inches and a width of 66 inches. The instrument is finished in leather. The adjustable single seat in the car is richly upholstered in leather over latex foam cushions. Because of the low seat height, the steering wheel is adjustable. The Nash Healey has a folding fabric top located behind the seat with a soft plastic rear window. The side windows are of hard plastic material, and lower into the door panels. The spare tire and the luggage department are located through a nearly horizontal rear deck. Height of the car from the road to the top of the hood is only 38 inches.

The Nash Healey represents the combined skills of Nash Motors and Donald Healey of Warwick, England. Mechanical engineering and designing are American while the car body building is British. Engine and major mechanical parts are manufactured by Nash Motors in the United States with the bodies built in England, using British materials.

According to Nash, limited deliveries will start sometime in April, and the price of the car, while not definitely set, will be between \$3750 and \$4000 f.o.b. New York.

The car will soon undergo exhaustive engineering tests at Daytona Beach, Bonneville Flats and the Indianapolis Speedway. An experimental version of the sports car was listed among winners of the 1950 LeMans (France) Grand Prix.

Overhauling the ROCHESTER CARBURETOR

Used on PONTIAC 6

Up-to-the-minute service information is offered here on the new carburetor which is used on all 1951 Pontiac six-cylinder cars

BEFORE attempting overhaul on the Rochester Carburetor which is used on 1951 Pontiac six-cylinder models, four special tools should be obtained. These are a choke rod bending tool, a float level and drop gage, choke unloader and fast idle gage and a heat suction tube seal punch. These can be obtained through Pontiac dealers. With the above-mentioned tools, the following procedure will assure a first class job.

Disassembling the carburetor. Loosen the

$\frac{1}{2}$ in. brass fitting on the choke; remove the attaching choke cover screws and retainers and then remove the choke cover and thermostat coil assembly from the carburetor. Remove the choke cover gasket and baffle plate. (Fig. 1.) Remove retainers from each end of choke rod and remove rod. (Fig. 2.) Remove retaining screw at end of choke shaft and carefully pry off choke trip lever spacing washer and choke valve. (Fig. 3.) Rotate the choke valve
(Continued on page 44)

Fig. 1. Removing the choke plate.



Fig. 2. Removing the choke trip lever.

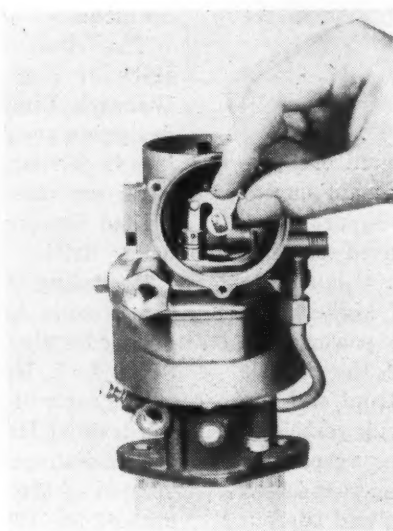


Fig. 3. Removing the choke shaft.



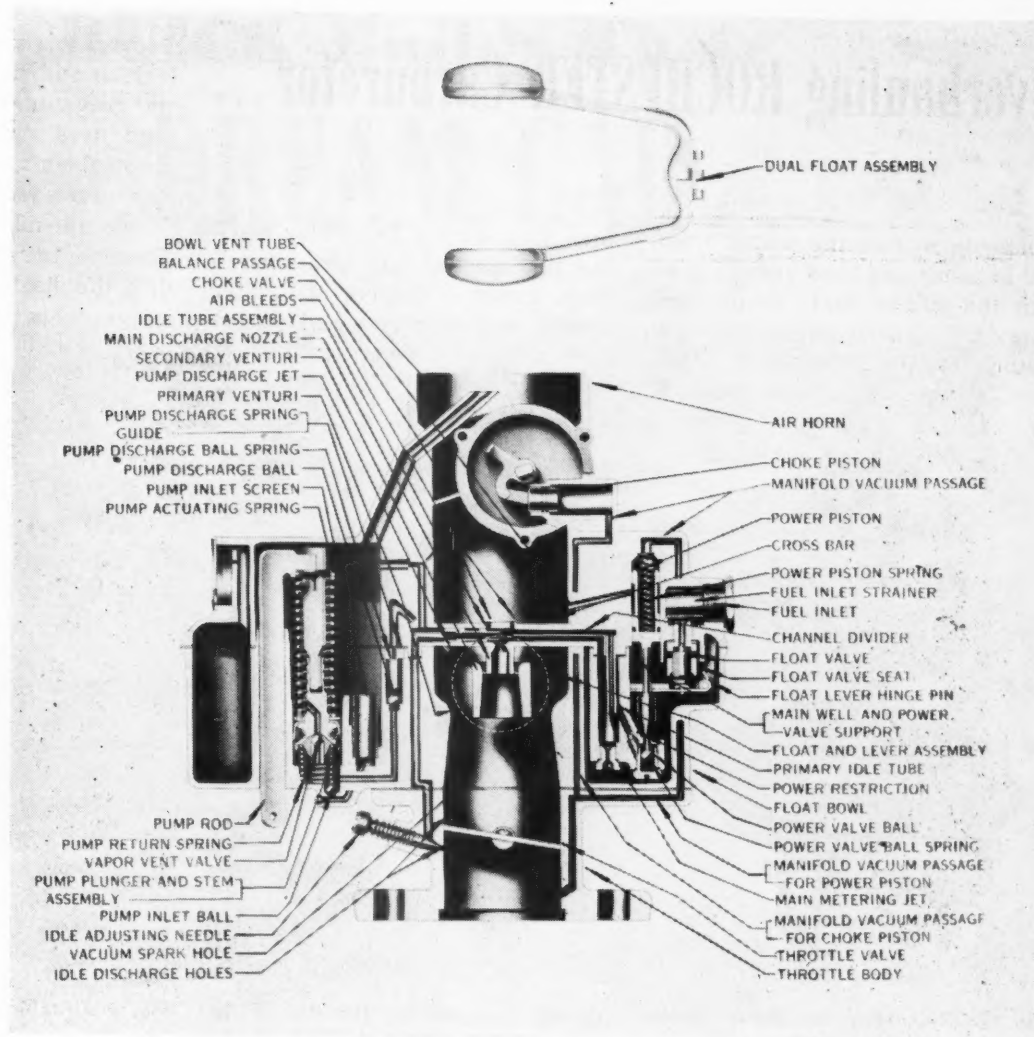
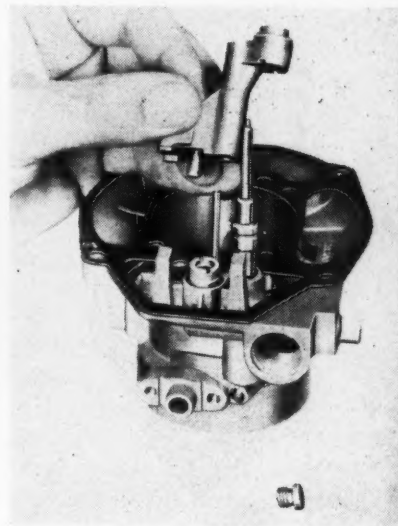
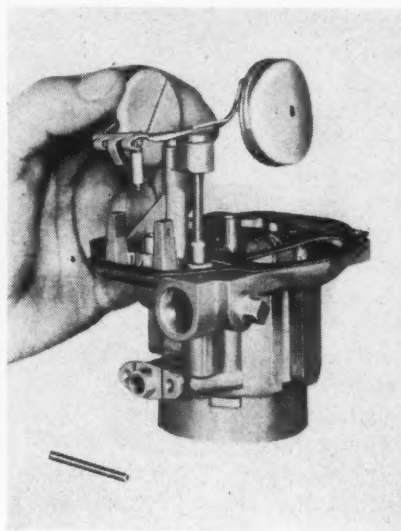


Fig. 4. Removing the choke housing.

Fig. 5. Removing the float assembly.

Fig. 6. Removing main well support.



Overhauling ROCHESTER Carburetor ...

clockwise to free the piston from the housing and then remove piston and choke shaft from carburetor. Remove choke pin and piston from the choke shaft. (Fig. 4.) Remove two choke housing

attaching screws. The choke housing and gasket may be removed from cover. Remove the filter screen retaining nut and gasket with a $\frac{3}{4}$ in. wrench and remove the filter screen. The pipe plug,

located at right angles to the filter screen and retainer nut is for use in checking fuel pump pressure and need not be removed. Remove the six cover screws and lift the cover from bowl. Place the cover up-ended on a flat surface. Remove the float hinge pin and lift the float assembly from the cover. (Fig. 5.) The float needle may now be removed from the
(Continued on page 132)

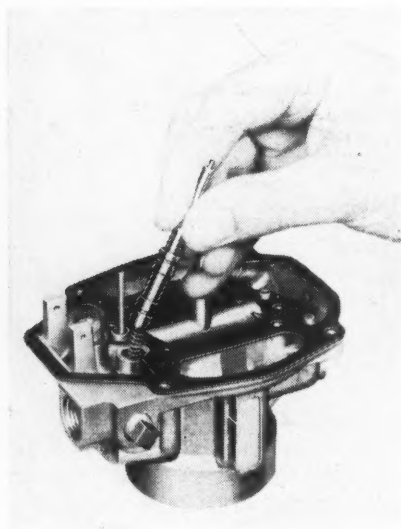


Fig. 7. Removing the power piston and spring.

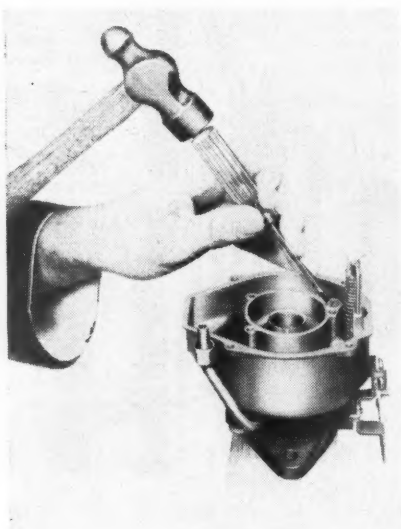


Fig. 8. Compressing the top of the pump discharge guide.

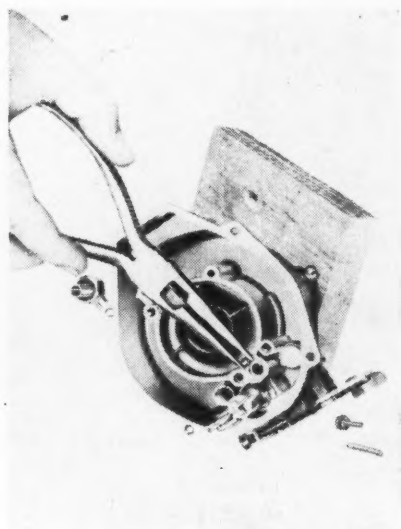


Fig. 9. Installing the pump discharge ball.

Fig. 10. Spreading the top of the plunger discharge guide.

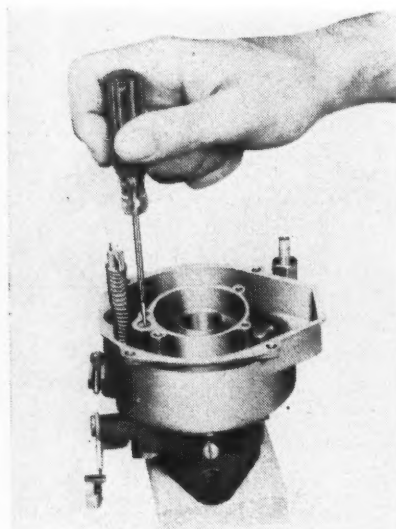


Fig. 11. Checking the float level with a special gage.

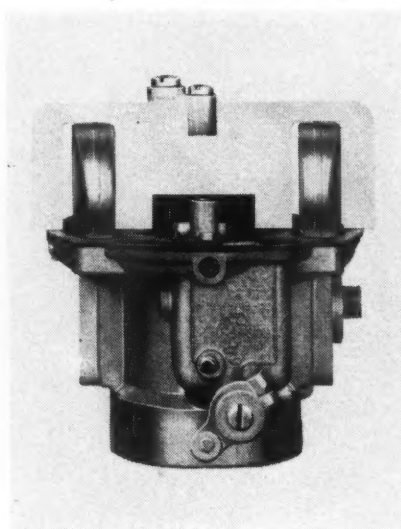
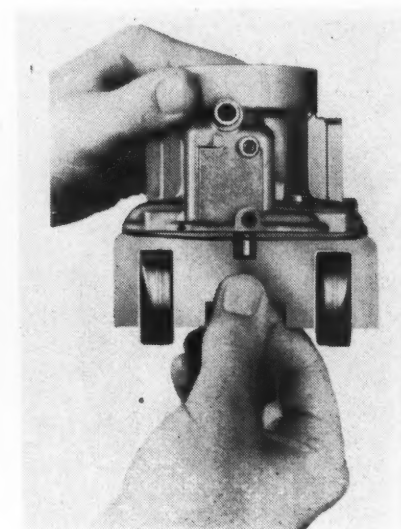


Fig. 12. Using the gage to check the float drop.



BUICK Builds Their DREAM CAR



A supercharged V-8 engine developing 300 hp, dual carburetion and air-cooled brakes are innovations on Buick's experimental car

BUICK has unveiled its "dream" convertible, a custom built, single-seat model for experimental purposes only. The car is powered by a 300 hp super-charged V-8 engine designed to drive it 150 miles an hour. It is equipped with four-wheel brakes cooled by forced air. Two sets of brake shoes, with individual hydraulic cylinders, are mounted side by side on each front wheel and on each side of the differential in the rear. The brake lining is segmented, similar to that used on the 1951 Buick Roadmaster. The brake drums are steel with a centrifugally cast iron liner, providing a dense, long-wearing surface. Cooling fins are provided for the

outside of the drums, much like those on air-cooled engine cylinders.

The front brakes have air passages to direct air into the brakes and discharge it. Radial fins on the front drums act like a centrifugal blower to continuously pump air past the working surface of the drum. The rear brakes and the drums are located on the differential where they are out in the air stream so no duct is necessary to provide adequate air over the cooling fins.

Buick declined to put a price tag on the XP-300, so named because it is an experimental project and has a 300-hp engine. It is purely an experiment in design and styling and will be used only as a "testing laboratory." The car was built for Charles A. Chayne, the designer, who is vice-president of General Motors in charge of the engineering staff.

The body panels are of heat-treated aluminum, and the total weight of the car 3125 lb. Mounted on a 116-in. wheelbase, it has an overall length of 192.5 in. and stands only 39.1 in. high at the
(Continued on page 98)



Pop Catches a Click



Pop O'Neill

The noise was in the valve assembly all right, but Larry

POP O'NEILL'S Repair Shop was far from Tommy's mind as he walked blithely up Glenrock's Main Street. Spring was not far enough along for Tommy to be dosed up with spring fever, but the warm sun, a day off, and the unfamiliar feel of his new trousers and jacket combined to send him off day-dreaming.

Suddenly he became aware that a girl was

speaking to him. "Why . . . why . . . hello . . . Miss, I mean Ma'am . . ." he stammered

"Why Tommy Winters," the young woman laughed. "I believe you've completely forgotten me."

Tommy thought for a moment of trying to brazen it out and decided against it. "I just can't seem to remember your name."

"That shouldn't be too much of a shock to me," the young woman pouted. "After all we have been in California for over two years . . . Are you still working at Pop O'Neill's?"

Tommy nodded. "My name's Marjorie Burlingame." She went on. But Tommy had the thread now. Bob Burlingame's wife. They used



"Why Tommy Winters," the young woman laughed. "I believe you've completely forgotten me."

Charles M. Kenyon, Managing Editor

couldn't put his finger on it until Pop told him what he and Larry had overlooked

to have a '46 Chevrolet convertible. Brought it in for servicing and once for repairs.

"Still have the same car?" he asked.

She nodded. "I want you to have a look at it. It's making a queer noise. Could I bring it over tomorrow?"

"Sure," said Tommy. "We can take it then. By the way it isn't the same noise you brought it in with last time, is it?"

"What?" Mrs. Burlingame was truly surprised. "What noise?"

"A sort of a rattle. You remember. All it turned out to be was a loose rock pan."

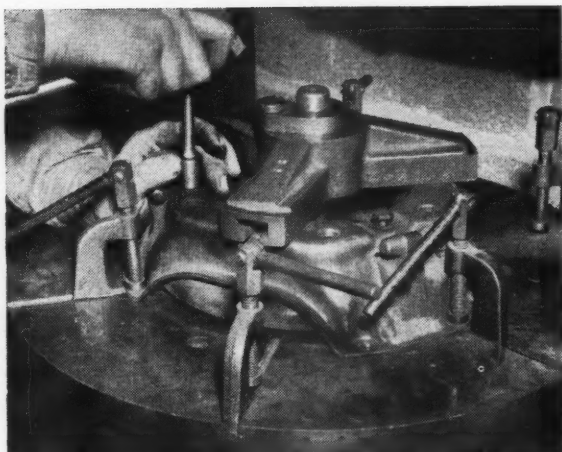
She shook her head. "No. This is sort of a clicking sound in the engine."

"We'll find it all right," Tommy said confidently. He smiled at her but she didn't smile back.

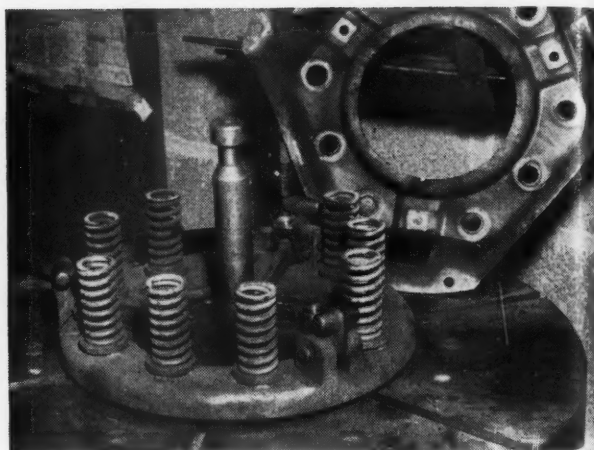
"That's not very flattering, is it?" she inquired. "Here you can't remember me or my name but you can remember that my '46 Chevrolet had a loose what-a-you-call-it over two years ago."

Tommy couldn't think of a good answer to that one so he wisely kept quiet. No woman can stand silence long, so she filled in for him. "I suppose," she reflected, "that shows your interest in things mechanical. After all you are an automobile mechanic and not a gynecologist."

(Continued on page 89)



The cover assembly installed in a special fixture for overhauling the unit.



The cover removed exposing the springs and lever assemblies.

Reconditioning the LONG CLUTCH

Ford, Lincoln, Mercury and Packard clutches
are overhauled in the manner described here

THE shop which does its own clutch rebuilding can turn out a job quicker and will make more profit on the job. There's only one extra major piece of equipment necessary for clutch overhaul, a clamping fixture to secure the unit while it is being serviced. With the right tools and the procedure described here, clutch assemblies on a number of popular cars can be rebuilt.

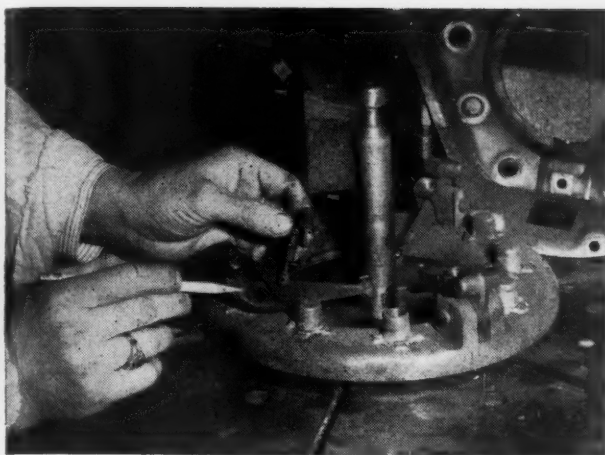
The first step in overhauling the Long clutch is to clamp the entire assembly in the special fixture. Mark the pressure plate cover so that the unit may be reassembled in the same balance.

Compress the springs until the release levers are fully depressed. Then remove the three yoke

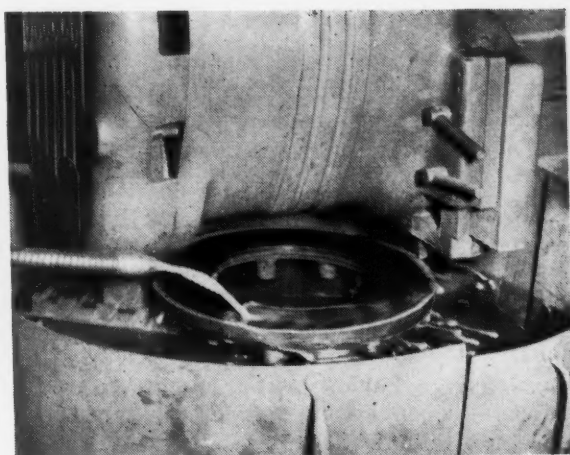
screws. Release the pressure slowly. Remove the cover, springs and insulator washers. Remove the cotter pins from the release lever yoke pins. Drive the yoke pins out of the yokes, being careful not to loose the yoke rollers. Remove the cotter pins from the release lever pins and remove the pins and the release levers, being careful not to loose the needle bearings from the release levers. Clean all parts thoroughly.

If the pressure plate is scored or heat checked, it should be refaced. After refacing, measure the distance from the top of each release lever pin hole to the machined surface of the pressure plate. This measurement must be identical for

(Continued on page 96)

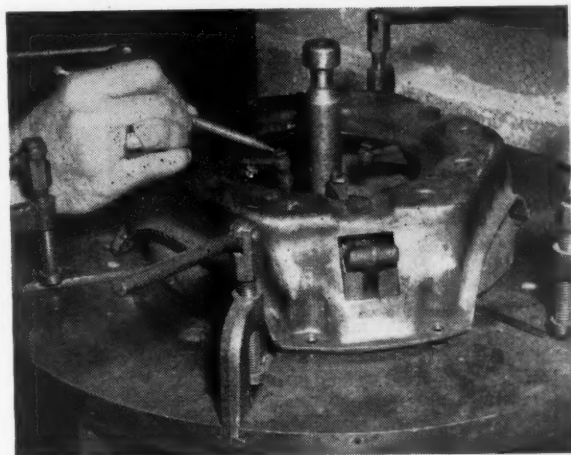


Removing the clevis pin from the clutch lever. Examine pin and needle bearings for wear.

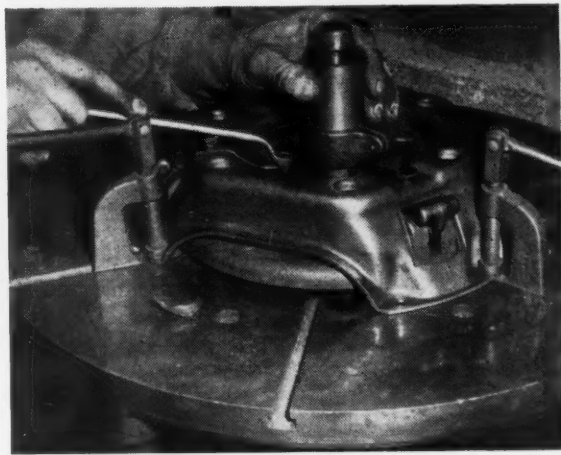


Resurfacing the pressure plate in a special grinding machine.

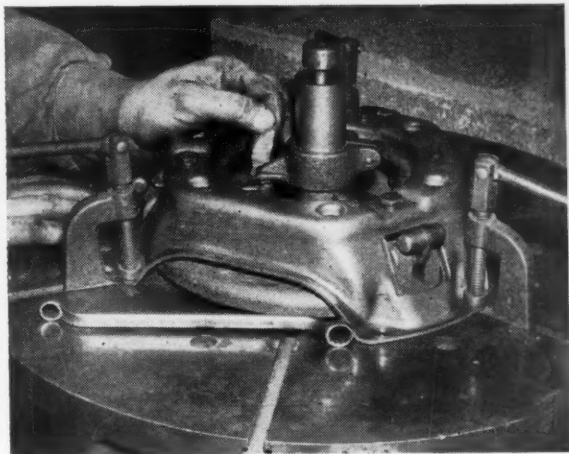
Examining the buttons for wear on the end of the throw out levers.



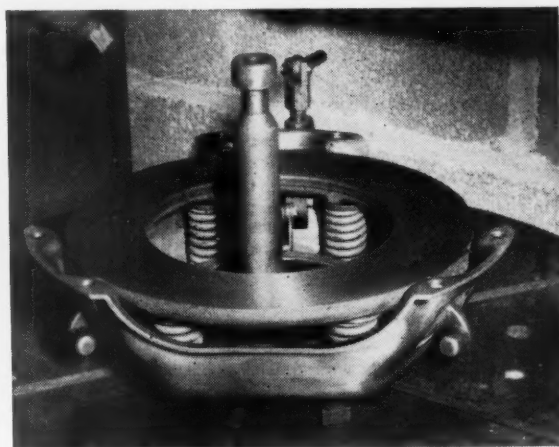
Adjusting the throwout finger buttons to the indicator on the jig.



Checking the finger clearance with a piece of .001 in. shim stock.



Complete job with a re-surfaced clutch plate, new springs, lever pins.



TROUBLE shooting and repairing speedometers is easy when the principles of operation of this instrument are understood. A speedometer is quite simple in construction, with only two moving parts inside the head. It is driven by a flexible cable which revolves in a housing. The cable connects to a shaft onto which is mounted a magnet. Due to the direct connection to the transmission, the magnet always spins at a speed directly proportional to the speed of the car. It revolves within a steel cup, known as the speed cup, to which the speed indicating needle is attached. The magnet, spinning within the speed cup, tends to drag the speed cup along with it. The faster the magnet turns the greater is the force in the speed cup. The amount of travel, however, is restricted by a hair spring which works against the speed cup, tending to return it to the "zero" position. The magnet and speed cup are the only parts which move in the speedometer mechanism. Naturally, a number of parts make up the odometer or mileage indicator, which will be covered further on in this article.

If neither the speedometer nor the odometer operate, the probable trouble is a broken cable. Be sure to determine the cause of the cable breakage before repairing or replacing the parts. If it is broken, check to see if the break is due to fatigue. A frozen cable is a common cause of failure and is evidenced by a twisted

(Continued on page 87)

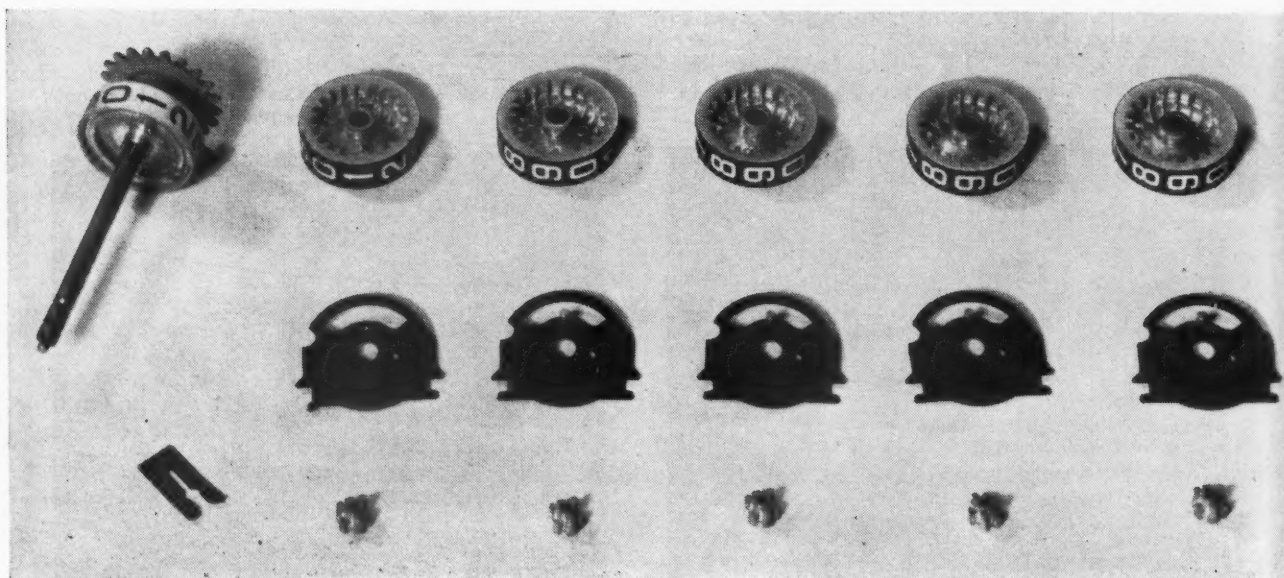


Magnet and shaft removed from the housing. The arrow points to the thrust washer.

Repairing

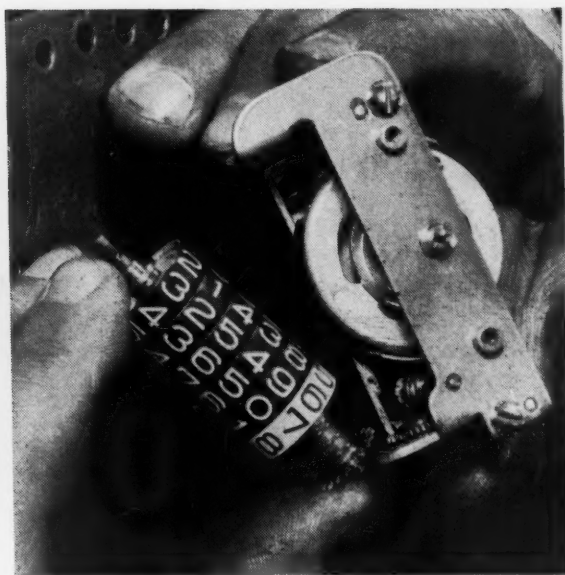
The principles of speedometer operation,

View of a disassembled odometer cylinder. Wear in the cogs and in the teeth in the wheels causes uneven alignment of the numbers.





The speed cup and hair spring. The new magnet is shown installed in the housing.



A new odometer cylinder being installed in the housing. Mileage is set the same as on the old unit.

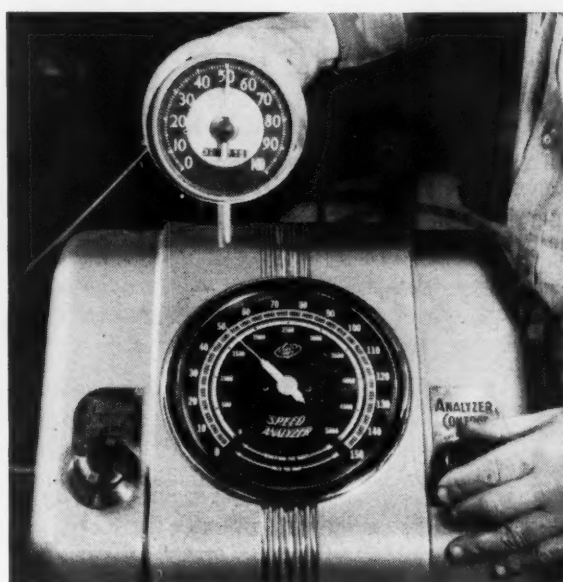
Speedometers

Arthur H. Nellen, Jr., Service Editor

trouble diagnosis and most common repair procedures are explained in this article

Magnetizing the magnet. This is always done on a new magnet and usually when recalibrating a speedometer.

Testing the speedometer after calibration. The final test is generally made at the speed limit of the home state of the car.





Dean Jones, Iowa City's only profit-sharing employer, has 25 employee-partners.

Democratic Profit Sharing Works



Dean Jones, Owner
Dean Jones Motor
Sales and Service

The Jones Service program for profit

sharing has proved to be in the best

interest of both employee and employer

A GROWING number of automotive businessmen are considering a new approach to employee cooperation—Profit Sharing.

In Iowa City, Iowa, Dean Jones Motor Sales and Service is beginning the second year of sharing profits with 25 employee-partners. Better than any amount of theory, its experience illus-

trates the basic principles of good profit sharing.

The Jones Service plan began operation in October, 1949. One year later the owner, Dean Jones, had contributed over \$8,000 in profits. Each employee member had received \$347 in cash, in addition to his regular wages. Both total sales and net profits were larger than the preceding



Owner Dean Jones (center) discusses business operations with other members of Profit Sharing Board. (Left to right) Ray Flannery, assistant manager, Ed McLachlin, parts, Maurice Steele, accountant, Wayne Weinard, service, and Norb Prizler, drive.

Chairman of monthly Jones Service employee meetings is Francis Conklin. Modern equipment and employee initiative combine to build profits.



year, while some expenses were less.

Yet both Mr. Jones and his employees insist that profit sharing cannot be measured only in dollars and cents. The way their plan operates explains why this is true.

After a \$200,000 expansion program Jones Service automotive center opened to the public

by Kenneth M. Thompson

in late 1948. Since then, the five departments of this aggressive business—new cars, used cars, drive, service and parts—have expanded annual sales to over \$900,000.

When profit sharing was first considered by the owner, sales were growing and the business was profitable. Employee relations were among the best in the community. There was no "emergency." Dean Jones had no greater problems than the owner of any automotive business.

Why then should he begin profit sharing? Because profit sharing was considered a matter of both fairness and sound business management. The owner remembers clearly when he began in "the oil business" in 1932 as a gasoline station attendant.

Mr. Jones explains his decision simply, "It's good to have been an employee and to have the employee viewpoint. In fairness to my employees, I felt that those who helped my business prosper should profit from it too."

Thus, the first element in profit-sharing success is the sincerity of the employer; his belief that profit sharing is right.

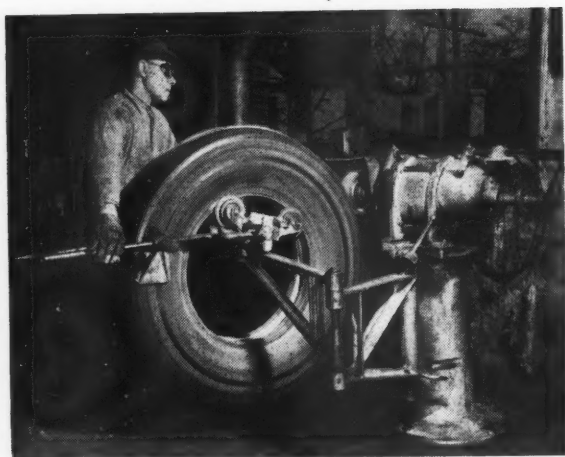
Some employers spring a hasty plan on surprised and uninformed employees. Mr. Jones got advice from the Dean of the College of Commerce at the University of Iowa. It was decided that an outside consultant be selected for the job. He should first study all aspects of Jones Service—sales, organization, profit record, present employee program and business prospects.

Such a careful evaluation of the firm is the second requirement for sound profit sharing. Is the business in healthy condition, ready to ask employees to help increase profits by their efforts? A realistic program can be developed only upon a foundation of knowledge about the going business.

The consultant then recommended that after deduction of a small percentage return on his investment, Mr. Jones share 25 per cent of annual net profits with his employees. Dean Jones recalls his first reaction, "You think of how much you made the last year and then of giving 25 per cent of that away."

But this Iowa employer thought further. He was asking his employees to take personal interest in the business, contribute ideas, cut expenses and build sales volume. The 25 per cent of profits was not to be a gift, but his employees' earned reward for that service.

(Continued on page 118)



1. Removing the old tread in preparation for application of the camelback.



2. Where tire is buffed to the breaker fabric, loose ends are trimmed off.

3. After the cement has been brushed on and dried, the camelback is applied.



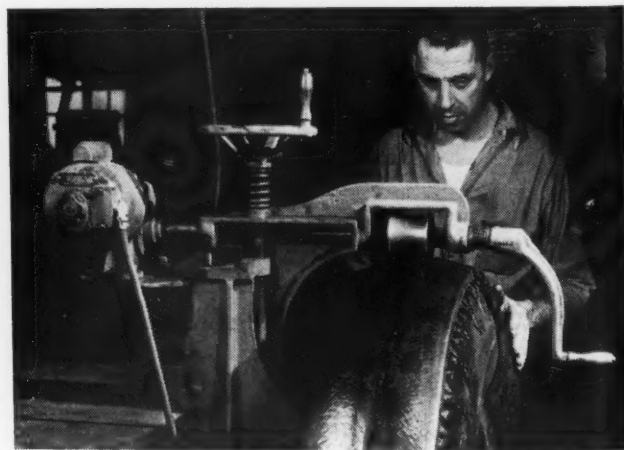
Recapped tires may become more popular

Illustrations courtesy Lee Tire and Rubber Co.



4. The beveled seam, having been cut so as to eliminate bulge, is cemented.

5. Rolling the camelback so that it will adhere to the casing at all points.



for Tired Tires

by Arthur H. Nellen, Jr., Service Editor

as restrictions tighten. In selling these, it helps to know how they're manufactured



6. Lowering the casing and air bag into the mold for curing the camelback.

7. Trimming off the overflow projections and excess rubber prior to painting the tire.



RECAPPING a tire requires three major steps: buffing off the old tread, applying the new unvulcanized rubber (camelback), and molding. Buffing is accomplished with a machine which spins a circular rasp at high speeds. Sometimes buffing is required down to the breaker fabric, an extra protective layer over the regular plies. When these cords are exposed, strips of special cushion stock are applied. Usually, however, the buffing process need only remove enough rubber from the old tread to give the cement and camelback a proper adhering surface. After buffing, any loose ends of breaker cord are trimmed and all foreign objects removed from the casing. Necessary repairs are made before proceeding.

Next, two coats of vulcanizing cement are brushed on the carcass and allowed to dry between coats in a dustproof, heated room. Now the camelback is applied. This rubber is supplied in rolls, cut to the correct width and thickness for a particular type of tire. Before the tire is placed in the mold for curing, an air bag resembling a reinforced inner tube is inserted in the casing. Then this assembly is placed in the mold and 100 pounds air pressure applied to the air bag. This forces the camelback into the tread design matrix of the mold, which is heated to 297 deg. F. After the specified time for molding has elapsed, the casing is removed from the mold and the small projections of overflow rubber trimmed off. It is painted with tire paint and allowed to dry, a completed tire.

The Hydraguide POWER STEERING Used on Chrysler

by Joseph Geschelin
Detroit Technical Editor

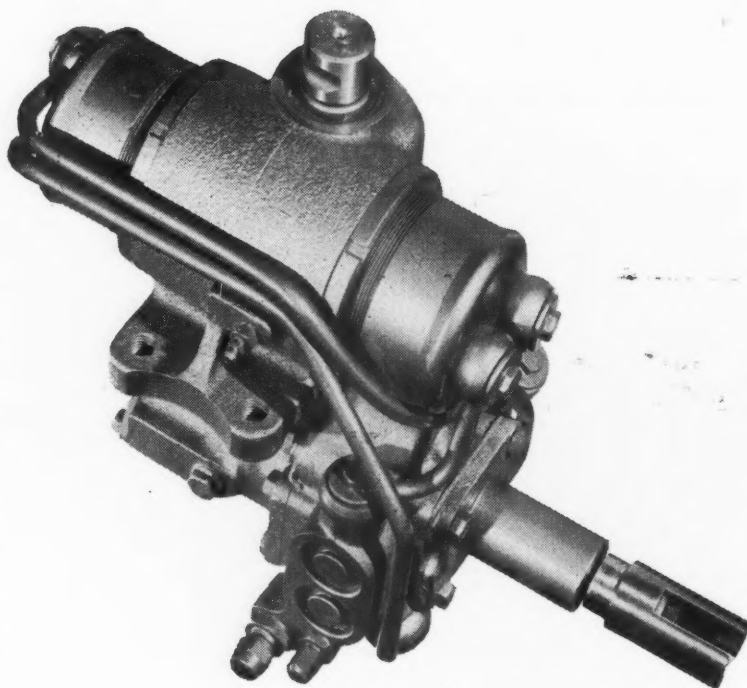
ONE of the most significant developments in the passenger car field is found in the introduction of the Gemmer Hydraguide, design covered by patents by Gemmer Mfg. Co., the first example of a power steering gear adopted as standard equipment in motor cars. In 1951 it will be fitted as standard equipment on Chrysler Crown Imperials, and optional on Chrysler Imperials and New Yorkers.

Gemmer also is doing considerable development work on large power steering units suitable for tractors and heavy vehicles, although this is still in the experimental stage.

Power steering has been discussed in the industry for many years and has been applied successfully on buses and off-highway vehicles. Although the advantages of power steering are well known, it may be of interest to restate some of the major features of interest to the car owner:

1. Reduction in driving fatigue on long trips at high speed.
2. Ability to move the front wheels with slight effort while car is standing, thus simplifying parking maneuvers.
3. Elimination of road shock.
4. From a safety standpoint the major advantage is complete control in the event of tire failure or encountering a chuck hole or soft shoulder.

The Hydraguide gear not only is light and compact but its unique design is based upon reduction in friction at all bearing areas, thus permitting full power steering at all times when the engine is running. The reduction in effort on



the steering wheel is so marked that a barely appreciable amount of effort suffices to move the front wheels with the car standing still.

Although overall steering ratio has been materially reduced from conventional, thus permitting faster steering under all conditions, there appears to be no tendency for over-steering probably because steering effort is so slight. Moreover, when traveling at high speed on the highway steering is extremely stable and control said to be excellent.

As shown in the photograph, the entire steering mechanism is housed in the light and compact unit seen here. The only other major element is the oil pump assembly which is mounted remotely, in the case of Chrysler being driven off the rear end of the generator shaft. High pressure oil lines constitute the only connection between the pump and gear box.

(Continued on page 110)

(Advertisement)

**Studebaker dealers
offer America's car owners
the kind of
Transportation Insurance
that's always timely!**



SAVES GAS ★ SAVES UPKEEP

©1951, The Studebaker Corporation, South Bend 27, Indiana, U. S. A.

Shop Kinks



\$25

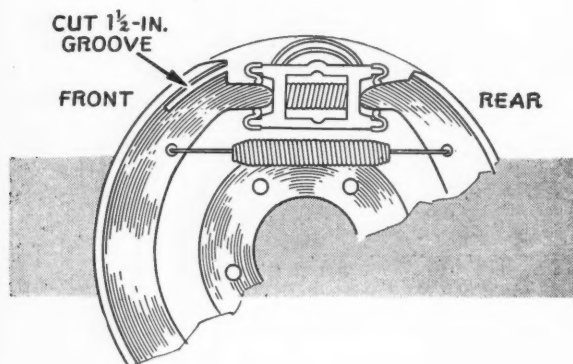
**FOR THE BEST KINK
PUBLISHED
EACH MONTH**

\$5

**FOR ALL KINKS
PUBLISHED
EACH MONTH**

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring five, possibly 25 dollars.

Best Kink of the Month



Slot in Shoe Eliminates Brake Noise

To remove the brake squeal on all Chrysler products cars and possibly others, put two blades in a hack saw and cut a groove in the front shoe as shown. We have done this on a number of jobs where nothing else would work and every time we have eliminated the noise with no comeback. *C. McCauley, 95 Duffy Avenue, Hicksville, Long Island, New York.*

Tray for Holding Tools When Working on Engine

I have had a lot of trouble keeping tools and small parts off of the shop floor when working on '49 and '50 Chevrolets with the narrow and streamlined fenders. I thought up a single idea that has remedied my trouble. I had an old tray and radiator cap in the shop. I welded the old cap to the bottom of the tray and by removing the present radiator cap on the job, I installed the tray cap assembly and it became a permanent, substantial

place for the parts and tools. *Joe Flick, Flick Chevrolet Service, 3553 West 140th St., Cleveland, Ohio.*

Use Metal Screws to Remove Old Grease Seals

Use large metal screws to remove grease seals. Drill three holes in around the metal case and screw them in. When the screws go through the seal, they will either force it out or give it a good hold to pull them out. *Clarence Haynes, Rt. 1 Box 29, Clarkston, Washington.*

Removing '49 & '50 Dodge and Plymouth Radiators

After draining the water and taking off the tap and side hoses, melt the solder on the straps folding the core. Then bend the straps out, and then out comes the core. To reinstall, set the core in place and use a clamp. This holds the straps tight after the straps have been cleaned and tinted, of course. After that heat the straps for your sweating and the job is finished. *F. D. McMeff, Oregon.*
(Continued on page 60)

DOUBLE PROTECTION DOUBLES THE LIFE!

IT'S TRUE! Perfect Circle's Solid Chrome Plating process actually doubles the life of cylinders, rings and pistons!

Every Perfect Circle 2-in-1 Chrome Piston Ring Set gives *double* protection... with a top compression ring plated with solid chrome to withstand highest temperatures and greatest wear... and a new Oil Stopper, with chrome plated rails for positive oil control.

What's more, every PC 2-in-1 Set gives you a choice of spring pressures... because *two* expander springs are packed with every Chrome Oil Stopper... a **NORMAL PRESSURE** spring for rebored and slightly worn engines, and a **HIPRESSURE** spring for badly worn engines and known oil pumpers! No wonder 2-in-1 gives new oil economy and sustained power in any engine!

NEW CHROME OIL STOPPER

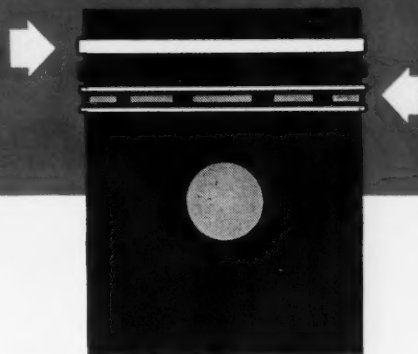
Steel rails plated with Solid Chrome. Alternate HiPressure spring with every Oil Stopper—at no extra cost.

TOP COMPRESSION RING

Plated with Solid Chrome.

Here's How Perfect Circle's 2 in 1 Chrome Piston Ring Set

Gives Double the Life of Cylinders,
Rings and Pistons!



CHROME AT THE TOP... where temperature is highest... lubrication poorest... wear greatest.

CHROME AT THE BOTTOM... gives positive oil control for thousands of extra miles without danger of scuffing or scoring.



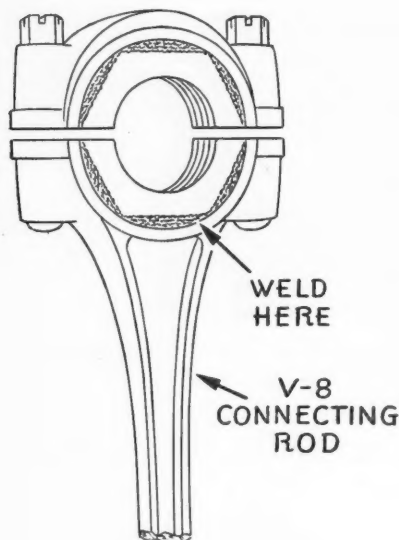
a sure bet in one set
for every Doctor of Motors

Perfect Circle
The Most Honored Name in Piston Rings



Nut in Connecting Rod Makes a Good Thread Chaser

I have made a tool for reclaiming the rear axle housing on the Chevrolet trucks. I took a rear axle retaining nut No. 3663657 and ground it in half way and then welded a



Ford V-8 con rod to it and made a thread chaser that does the job. You can reclaim the threads when they are bad by starting the tool toward the inside and working out. *Earl Bentley & Son, Fairbank, Iowa.*

Wrench Modified to Speed Work on Hydra-Matic

A time saving tool can be altered to speed up adjustment of Oldsmobile Hydra-Matic drive throttle linkage at the clevis between accelerator pedal and lever assembly on the fire wall. Space is limited at this point and ordinary open end wrenches are too long to quickly unlock the nut on this rod. Shortened wrenches do not give enough leverage to do the job and the nut is very hard to unlock in this close space. I purchased a Snap-on tool #S-9467 and ground an opening into the box socket to allow it to go on the rod and it quickly unlocks the nut to permit making this final setting which is necessary to allow

the Whirlaway to operate and also prevent bending of levers which will occur, if this rod is adjusted too short. The tool resembles a crows foot wrench, but has a closed 12 point box socket on one end. This is the point that must be opened to make good use of the tool. *William P. Campbell, 7428 Beverly Road, Philadelphia 38.*

Eliminating Gear Shift Trouble on Chevrolet

Owners of 1949 and '50 model Chevrolets have been having trouble in some cases with the gear shift levers getting crossed up on the steering column. I think I have found the trouble and how to remedy it. First of all, I have checked every car that has come into the shop locked in gear. I have found that the control shaft lever is in the notch to shift second and third, and the low and reverse lever has fallen down into low gear. When the above happens, the car will run in low gear as long as the gear shift lever is in neutral. In all of the above cases I have found that the low and reverse detent spring is weak. By replacing the spring with a heavier detent spring like the one used to prevent the car from hopping gear, corrected the trouble. *R. Courtney Burdick, King Motor Co., P. O. Box 591, Crockett, Texas.*

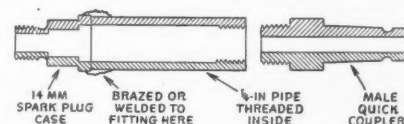
Tabs on Manual Preserves the Book and Speeds Use

This idea may not be a time saving device but it certainly keeps our Chilton MOTOR AGE, FLAT RATE and SERVICE MANUAL in good shape. It takes a terrific beating and abuse from dirty and greasy hands. So, when the mechanics thumb through it to find their time and rates, they really abuse this "bible." To eliminate this we pasted heavy duty index tabs, for example, the first index tab was pasted on the page where Buick begins. On the tab I just printed

Buick, the following tab was pasted where Cadillac begins, etc. Now, when the mechanic wants to hunt for whatever car he wants, the "bible" takes very little abuse from their greasy fingers, as all he does is pull the tab and up comes what he is looking for. *Joe Gancas, c/o Bob Coughenour, Inc., Meadville, Penna.*

Tool for Checking Leakage From Combustion Chamber

To check cylinder heads, gaskets and cylinder bores and combustion chambers for cracks and leaks into the cooling system, causing coolant loss, remove all the spark plugs from the engine. Fill the radiator. Then screw in the adapter described in the drawing below. Apply 100 to 150 p.s.i. air pressure to each cylinder, one at a time. First being sure the cylinder being tested is on compression T.D.C. and the engine is blocked so it will not turn when the air is applied to the piston head. Blocking the engine is simple on a conventional transmission type car. Shift the transmission into high gear after positioning the piston on dead center. To block the fluid coupled



cars use two heavy machine shop "C" clamps on the flywheel rim, close to the bell housing or other convenient spots, or block the front crankshaft pulley with a box wrench on the pulley nut. Air bubbles will appear at the radiator filler when the air is applied to the defective chamber. By using the tool the pressure may be left on for 1 to 3 minutes, giving the mechanic time to locate the leak. Sometimes the leak is outside the water jacket or at the gasket edge. Don't stop checking until you have checked all the cylinders. Very often all of them leak. *P. E. Desimone, Amity Auto Service, 1425 S.M. Blvd., Santa Monica.*

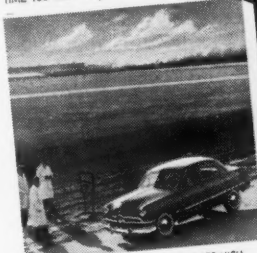
Working for you—
Another **LIFE** Advertisement

*You Might Say
They're "10,000 Proof"*

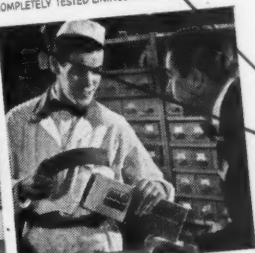


"YES, SIR, 10,000 TESTS PROVE GENUINE FORD BRAKE LININGS ARE RIGHT FOR FORDS. TEST AFTER TEST ASSURES YOU SMOOTH, STRAIGHT-LINE STOPS EVERY TIME YOU USE THEM."

"IN THE LAB, ON TEST TRACK AND ROAD, THEY'RE TESTED FOR SMOOTH STOPPING, LONG WEAR UNDER ALL OPERATING CONDITIONS. THEY'RE THE MOST COMPLETELY TESTED LININGS MADE FOR FORDS."



"FOR EXAMPLE, THEY'RE TESTED IN 3,250 HIGH SPEED EMERGENCY STOPS TO GIVE YOU GREATER SAFETY—AND 'SKID' TESTED TO SEE THAT ALL LININGS ARE UNIFORM IN ACTION."



"SO BE SURE YOU ASK FOR GENUINE FORD BRAKE LININGS—MADE RIGHT TO FIT RIGHT AND LAST LONGER. THEY'RE THE LOWEST COST, COMPLETELY TESTED LININGS YOUR FORD CAN USE."



AVAILABLE WHEREVER YOU SEE THIS SIGN AT ALL FORD DEALERS AND SELECTED INDEPENDENT GARAGES

**KEEP YOUR
FORD
ALL FORD!**



"AND ALL GENUINE FORD PARTS ARE BUILT TO SAVE YOU TIME, MONEY AND TO GIVE YOU REAL SATISFACTION."



Feature Genuine Ford Brake Linings Again this month for extra Ford business

Now is the time for motorists to reline brakes, for safe driving in the months ahead.

So for the second straight month a sales-packed LIFE ad will remind Ford owners in your area to get the right linings for their Fords—Genuine Ford Brake Linings. And that can mean extra Ford business for you.

Here's Why:

Your own Ford customers will see that with all of Ford's rigid test standards, Genuine Ford Brake Linings have to be best—to be offered by Ford.

They'll see details of the kind of testing that assures them the safe, long wearing linings that mean high quality at low cost.

And again they'll be reminded to see you for the linings that help keep their Ford all Ford—Genuine Ford Brake Linings.

So be ready with the linings that mean repeat business from satisfied Ford customers—Genuine Ford Brake Linings. Order now from the Ford Dealer near you.

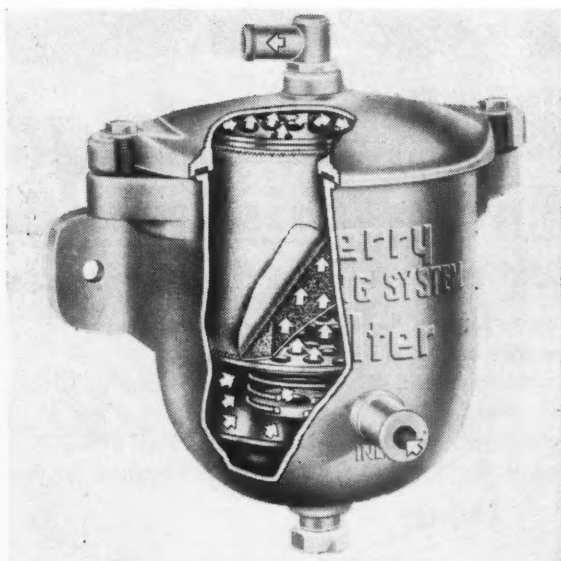


This sign lets Ford owners know you are headquarters for Genuine Ford Parts. Get yours today. See your nearest Ford Dealer for complete details.

FORD Division of FORD MOTOR COMPANY

NEW Products

SHOW WINDOW



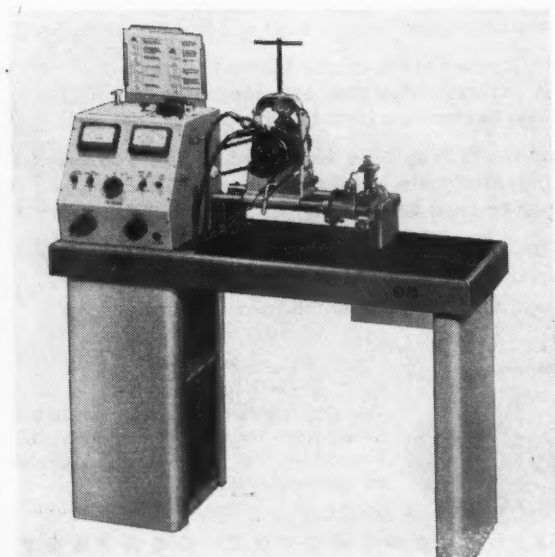
◀ 158. Cooling System Filter

Spark-O-Liner Corporation announces a new medium priced, general utility model of the Perry Cooling System Filter and Conditioner. Designated as Model "E," the new filter is designed for cooling system capacities from 5 to 10 gallons. The new model includes a new goose neck outlet connection designed for simplified installation. The filter will soften and clean the coolant and break up deposits in the radiator and the motor block.



▲ 159. Point-of-Sales Material

Krylon, Inc., is offering point-of-sales material for use in service establishments to promote Krylon-izing. This process waterproofs ignition systems with Krylon, an acrylic plastic which is sprayed on the wires. The firm has launched a nation-wide campaign to promote Krylon-izing, and now packages their products specifically for automotive use. Materials for advertising this process as a part of tune-ups and special tags which show the date of the last application are available.



◀ 160. Regulator-Generator Servicer

The Allen Electric and Equipment Co. has developed a combined regulator and generator servicer which is said to contain in one unit all the necessary instruments and tools for testing and overhauling of six volt generators

For Further Information Use Postcard Facing Next Page

and regulators. All equipment is assembled on a bench and arranged for accessibility with a control panel which is inclined for visibility. Control knobs and switch positions are designed to permit instantaneous selection of test circuits.

▼ 161. Clock Sign

AC Spark Plug Division of General Motors has announced a new point of purchase clock sign for its wholesalers and dealers. This sign, which will tie in with trade paper and national magazine advertising, comes in three styles, one for spark plugs, one for oil filters and one for fuel pumps.



▼ 162. V-Belt Packages

Durkee-Atwood Company has adopted a sealed-plastic package for its automotive V-belts. The package consists of a printed cardboard carton with a tuck-in flap, and completely wrapped in transparent plastic which is heat sealed to protect the belt against deterioration. Replacement numbers are listed on the face of the package which provides a cross-reference for inter-changeabilities with other belts. Beneath this listing are the size specifications for inside and outside circumferences and top width of the belt. The back panel lists the cars, trucks and tractors serviced.



▲ 163. Filter Display

Fram Corporation is offering a metal display stand which is designed to be set up in a prominent spot to serve as a merchandiser as well as a storage space for Fram Filters. Finished in blue with white panels, and with three shelves for merchandise, it carries a sales message which is lithographed in color on the edge of the shelves for attracting attention of the motorists. Pans are provided at the sides for old cartridges.

(Continued on page 64)

New Products Show Window

Continued from Page 63

164. Magnetic Sockets

The Snap-on Tools Corp. announces a line of magnetic power sockets in $\frac{1}{4}$ inch, $\frac{3}{8}$ inch and $\frac{1}{2}$ inch square drive sizes. These sockets are designed for use in self-tapping screws. A magnet imbedded in each socket holds these flat headed screws firmly, making



it easy to insert and install them where they are needed. Standard handles and extensions can be used with the sockets. All sockets are designed for either power or hand operation and have a gun metal finish.

165. Adjustable Wrenches

The Owatonna Tool Company is marketing four new adjustable wrenches made of high alloy steel. The jaws are tapered to permit ready access into close places, and yet are said to be widened deep enough to obtain a full bite on either hex or square nuts. They are fully heat treated and chrome plated. The six inch wrench has a capacity of $\frac{3}{4}$ in., eight inch has a capacity of $\frac{7}{8}$ in., ten inch has a capacity of $1\frac{1}{8}$ in., and twelve inch has a capacity of $1\frac{5}{16}$ in.

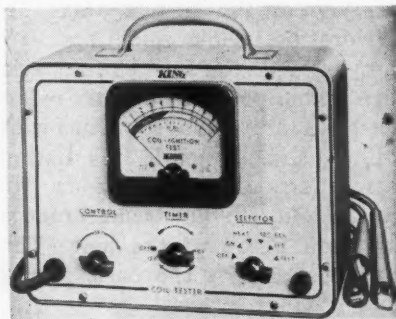
166. Mirrors

The J. W. Speaker Corporation is marketing a new line of mirrors which are claimed to offer sharp, blurless rear vision through a new method of construction. Called the DuckSback mirrors, they are satin aluminum finish and are claimed to have reduced vibration trans-

mitted from the car or truck. The term DuckSback is derived from the construction of the mirror, which is sealed off from the weather so as to prevent water from entering the mirror heads and protects the glass from moisture attack. The mirrors are available with a mounting bracket which is adaptable to any size truck door hinge, or with a mounting bracket which permits installation on panel, cowl, or fender.

167. Engine Testers

The King Electric Equipment Co., formerly the Electric Heat Control Co., announces that the entire line of King portable engine testers has been redesigned to simplify operation and to improve testing accuracy. According to the manufacturer, the new portable King Model G-201 Coil and Ignition Tester features a 5 inch meter and has simplified con-



trols. The unit tests for open circuits, shorted turns, insulation breakdown and other troubles of both 6 and 12 volt coils, either on or off the vehicle. The time clock controlled coil heater brings the coil windings to maximum operating temperature. High tension current flowing to each spark plug can be measured and compared.

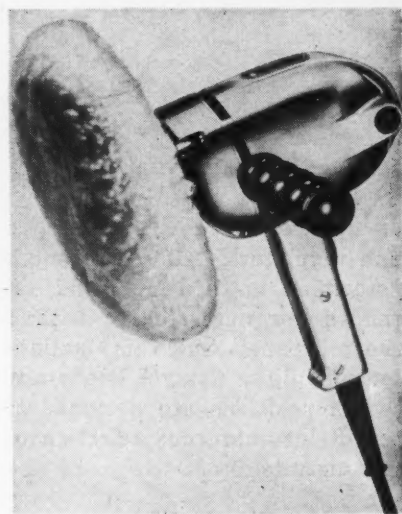
168. Parts Merchandiser

Chrysler Motors Parts Div. of Chrysler Corp. has developed a self service parts stocking unit. This service package center is equipped with a rotary parts specifier to show the customer what

service package he needs. He spins a dial and reads on a chart the number of the package he will use for any standard repair job on a Chrysler Corporation-built vehicle. He then selects the package from the center and pays for it at the counter.

169. Power Polisher

Skilsaw, Inc. is manufacturing a new Auto Polisher of light weight, designed for use in shops where volume does not warrant purchase of heavier and more ex-



pensive equipment. This tool is $9\frac{1}{2}$ in. long and uses a full size 7 in. pad. It operates at a speed of 1300 r.p.m. An in-line motor and spindle construction is claimed to eliminate gyroscopic "kick."

170. Inventory Control

The Hersh Motor Car Company, Elizabeth, N. J., developed the Austin Automatic Inventory Control for used-car follow-up. Colored re-usable plastic tabs giving data on a used car when received, is placed on No. 1 of the conveyor. The machine is set to operate once a day at a pre-determined hour, at which time the conveyor moves on to the next number. When the tab reaches a ten day period and the car has not been reconditioned or when the car has aged 30 days, it is discharged into the plastic containers. This signals the used-car manager for attention on this particular unit.

(Continued on page 66)



HERE'S HOW TO GET

Free Information

Here is a recap of the New Products described in this issue, along with their code numbers.

On each of the postage-paid postcards below you can request further data on items described in this New Products section. Fill out one of the sections completely for each item in which you are interested.

- 158. Cooling System
- 159. Point of Sales Material
- 160. Regulator Generator
- 161. Clock Sign
- 162. V-Belt Packages
- 163. Filter Display
- 164. Magnetic Sockets
- 165. Adjustable Wrenches
- 166. Mirrors
- 167. Engine Tester
- 168. Parts Merchandise
- 169. Power Polisher
- 170. Inventory Control
- 171. Spinner Wrenches
- 172. Truck Stop Lights
- 173. Bench Grinder
- 174. Service Bulletin
- 175. Hydraulic Jack
- 176. Revolving Dispenser
- 177. Clutch Set
- 178. Bearing Pamphlet
- 179. Metal Filler
- 180. Balance Weights
- 181. Front Stabilizer
- 182. Plastic Scraper
- 183. Car Key Board
- 184. Micrometer
- 185. Car Top Carrier
- 186. Hot Rod Pistons
- 187. Starting Booster
- 188. New Program
- 189. Jack Stand
- 190. Drill Press
- 191. Power Scraper
- 192. One Piece Jacks
- 193. Convertible Tops
- 194. Conversion Kit
- 195. Gaskets
- 196. Drill Converter

USE THESE POSTCARDS

<p>3/51</p> <p>Name <input type="checkbox"/></p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p> <p>Write in the number of the product about which you want more information</p>	<p>3/51</p> <p>Name <input type="checkbox"/></p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p> <p>Write in the number of the product about which you want more information</p>
<p>3/51</p> <p>Name <input type="checkbox"/></p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p> <p>Write in the number of the product about which you want more information</p>	<p>3/51</p> <p>Name <input type="checkbox"/></p> <p>Title</p> <p>Company</p> <p>Co. Address</p> <p>Chilton's MOTOR AGE, Phila. 39</p> <p>Write in the number of the product about which you want more information</p>
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New Products Show Window

Continued from Page 64

171. Spinner Wrenches

Bonney Forge & Tool Works has announced the availability of a new series of seven spinner wrenches with composition handles fluted for a firm grip. They are designed especially for reaching small nuts that can be handled only with exceptionally small sockets. The wrenches are made

like a screwdriver with a hexagon socket that grips the nut. Wrenches with hexagon openings of 3/16 inch, 1/4 inch, 5/16 inch and 11/32 inch are six inches in length and have a drill depth of 2 1/4 inches. The 3/8 inch, 7/16 inch and 1/2 inch wrenches are 6 5/8 inches overall and have a five inch drill depth.

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172. Truck Stop Lights

The R. E. Dietz Company has introduced two new giant size stop lights for trucks and buses. The light has an armored construction employing 13 gage steel and a very thick glass lens. The glass is red and has the word Stop in black. The light is 11 1/2 in. long, 3 in. high, and 2 1/2 in. deep. The round giant stop light has a lens of 6 5/8 in. visible diameter, and comes in red or amber with or without the word Stop. It is provided with a choice of mountings, either flush or L-type bracket. The light is set off with a chrome-plated brass bezel and lenses may be rotated for installation where most convenient.

173. Grinder

The Baldor Electric Company announces development of a new 6 in. grinder in 1/4 HP and 1/3 HP sizes. This grinder, known as the 600 Series, is said to have extra wide clearance between the wheels and the motor frame which permits the grinding of large and odd shaped pieces. Also, long pieces may be moved across the front of the motor frame because it is smaller in diameter than the grinding wheel. Additional features include capacitor start, capacitor run motor, full size ball bearings which never require lubrication, and tool rests which may be tilted for angle grinding.

174. Service Bulletin

The Automotive Division of Wagner Electric Corporation announces the publication of a new Hydraulic Brake Fluid Service Bulletin. The bulletin contains latest information and detailed instructions complete with diagrammatic sketches and illustrations on how to check, drain, flush, refill and bleed hydraulic braking systems including self-contained power units and multi-cylinder foundation wheel brakes. Tools and equipment necessary to speed up and satisfactorily service hydraulic braking systems are illustrated and explained.

(Continued on page 152)



FLOOR PLANS

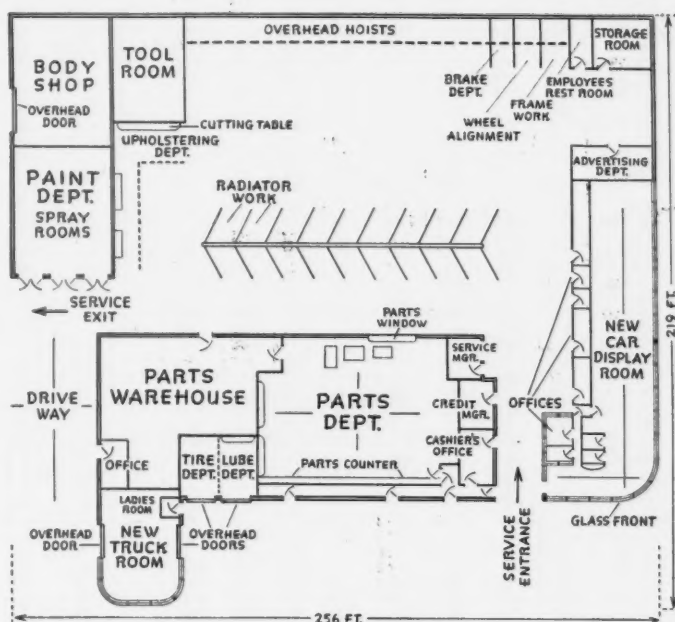
FOR BETTER SERVICE

Frank Kent's Shop Covers an Acre of Texas

THE building of a Frank Kent Motor Company in Fort Worth, Texas, provides ample space for all departments. Measuring 256 ft. long and 219 ft. deep, everything except the used car department and the gas station section is under one roof. The repair shop has 27 work stalls with 9 of them under an overhead chain hoist, one hoist for each stall. The shop is completely equipped for wheel alignment, frame straightening, brake work, radiator repairs, radio service, upholstery, body work, painting along with the regular line of mechanical service. Complete paint jobs can be handled along with touchup work due to the size of the paint department, which has three spray rooms, each 12 feet by 50 feet.

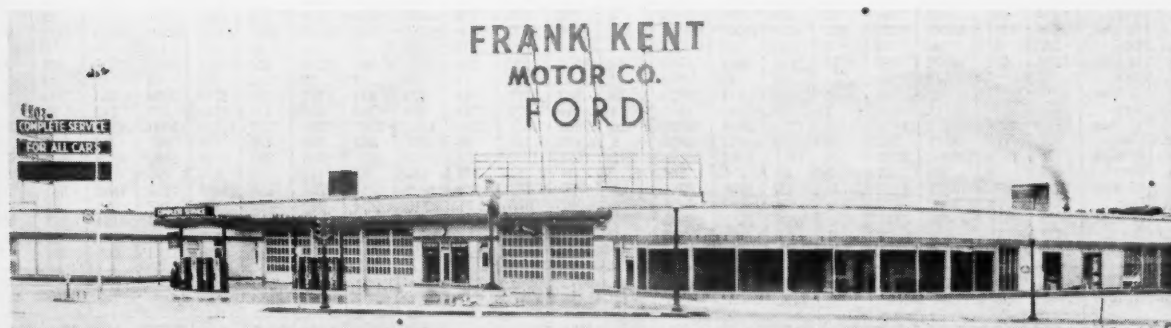
A great deal of space is provided for the parts department. The parts bins and the parts warehouse are of sufficient proportions that systematizing is easy and much time is saved in finding parts.

On one side of the building is a gas island, covered for the customer's convenience. This is an attractive arrangement which draws many new service customers into the shop. The lubrication department is also located so that it can be en-



tered from the outside, another arrangement to draw new customers.

One hundred and sixteen people are employed by this firm. Four thousand repair orders are processed per month, representing \$26,000 in customer labor, \$55,000 in parts and \$20,000 in accessories.



A corner showroom window and an easily accessible gasoline pump island make this building a real drawing card for new car and service customers. The lubrication and tire departments, on the far side of the pumps, are entered from the outside. At the far left is a separate showroom maintained for new trucks.

New Car Registrations by Makes by States*

STATE AND MONTH	Buick	Cadillac	Chevrolet	Chrysler	Crosley	De Soto	Dodge	Ford	Frazer	Hudson	Kaiser	Lincoln	Mercury	Nash	Oldsmobile	Packard	Plymouth	Pontiac	Studebaker	Willys	All Others	Total
Alabama.....	Dec. 648	57	1768	167	8	99	373	1100	1	61	110	34	317	104	330	55	713	503	228	20	8	6,704
12 Mos. 6497	824	21152	1300	94	831	3198	17127	104	963	811	523	4739	1701	3751	571	6150	4967	3327	489	57	79,156	
Arizona.....	Dec. 227	27	291	86	3	52	115	444	2	43	41	11	104	65	433	34	199	127	79	8	7	2,098
12 Mos. 2698	389	6158	684	36	369	1100	5082	31	689	343	126	1250	692	1502	277	1786	1594	1574	164	66	26,570	
Arkansas.....	Dec. 254	12	663	73	2	85	185	447	27	68	14	118	60	138	25	388	202	104	12	2	2,878	
12 Mos. 3610	511	11420	823	70	804	2379	9689	149	626	847	190	1994	1135	2080	409	4621	3104	1877	137	28	47,003	
California.....	Dec. 3977	506	8626	1878	20	1388	2269	5891	9	814	688	327	2455	1398	3169	555	4704	3124	2150	190	419	44,858
12 Mos. 44536	11323	111736	15639	378	11190	20408	89198	614	13135	6515	3231	27591	17205	32105	5157	39535	35042	29557	2024	3879	519,996	
Colorado.....	Dec. 622	41	797	220	10	89	280	686	2	161	88	30	276	144	293	71	528	299	107	34	4,778
12 Mos. 5789	858	12077	1736	146	899	2938	10143	94	2305	605	429	3257	2580	3226	736	4917	3844	2012	367	15	58,993	
Connecticut.....	Dec. 661	93	1028	274	7	223	496	916	3	132	165	41	343	167	673	146	779	415	320	43	85	6,990
12 Mos. 7631	1806	17822	2375	127	1651	4633	13331	142	1582	1344	497	4655	2323	5917	1378	7694	6078	3908	688	617	86,097	
Delaware.....	Dec. 87	16	186	20	4	22	60	178	9	23	17	54	22	86	11	107	84	51	1	4	1,042
12 Mos. 1378	296	3963	271	25	240	776	3333	30	225	328	102	787	310	1197	175	1209	1552	1094	82	46	17,421	
Dist. of Col.....	Dec. 181	39	290	71	2	46	124	345	25	21	21	84	27	145	17	281	138	84	9	10	1,942	
12 Mos. 2591	715	6999	906	11	533	1857	5588	25	704	232	283	1596	694	2395	428	3957	2619	1005	121	207	33,468	
Florida.....	Dec. 980	169	1889	384	62	257	647	1611	1	158	280	99	683	189	580	172	1299	849	356	106	161	10,932
12 Mos. 10129	2113	24816	2780	654	1642	5711	20911	115	2217	1450	1115	8260	2728	5960	1386	9951	7877	4469	1383	1237	116,904	
Georgia.....	Dec. 845	87	1513	161	8	112	407	1053	3	63	124	43	352	95	448	80	629	599	182	25	12	6,841
12 Mos. 10478	1568	28623	1937	131	1356	5077	22856	144	1573	1247	634	6901	1752	6040	978	9329	8158	4172	555	210	113,922	
Idaho.....	Dec. 168	36	324	59	36	93	250	1	68	39	21	95	61	95	25	201	147	91	14	2	1,526
12 Mos. 2527	406	5922	638	11	465	1090	4467	50	782	442	178	1284	1056	1500	305	2168	1940	1799	279	66	27,358	
Illinois.....	Dec. 5458	961	10091	1703	31	1418	3491	7769	19	1499	1075	327	2924	1570	3405	860	3258	3258	113	113	30	54,403
12 Mos. 37611	7729	84852	10099	298	7776	20406	70824	1035	14039	7677	2282	21281	13634	25304	5574	40253	26352	17101	1390	284	417,671	
Indiana.....	Dec. 2977	428	7962	956	50	803	1782	6272	68	932	500	208	1216	1021	2022	487	3329	2269	1679	202	17	35,190
12 Mos. 15549	2576	45377	4395	214	3595	8899	35853	444	5047	3448	968	7334	7090	10933	2375	18856	13641	14329	1075	110	200,112	
Iowa.....	Dec. 1109	95	2550	398	8	312	846	1968	6	171	269	50	637	326	689	152	1282	782	401	12	2	12,045
12 Mos. 9677	1512	30224	3057	60	2068	6855	26480	295	2272	2496	517	6367	3982	6827	1216	11183	8454	4449	317	23	128,114	
Kansas.....	Dec. 701	62	1487	243	4	151	432	3	3	139	160	25	364	184	404	80	859	470	184	9	3	6,859
12 Mos. 7411	1081	22014	2048	90	1353	4322	261	251	2030	1547	481	4781	3055	4610	1118	7618	6323	3353	262	15	91,572	
Kentucky.....	Dec. 571	43	1645	176	7	132	340	1160	76	84	21	246	104	394	73	662	433	217	35	11	6,436
12 Mos. 5967	848	20508	1698	74	1086	3469	16875	115	1204	1046	248	2593	1991	4398	781	6881	5268	3246	572	39	78,897	
Louisiana.....	Dec. 410	72	1068	130	12	153	241	885	1	46	101	32	223	80	273	91	607	383	244	22	5	5,079
12 Mos. 6160	1157	20552	1417	138	1304	3362	17536	123	1020	1218	367	4144	1283	4004	703	7474	5294	4459	482	54	81,231	
Maine.....	Dec. 67	24	463	27	3	14	50	331	44	40	6	126	64	64	42	122	147	89	14	1,730
12 Mos. 2188	461	6841	656	63	505	1437	6004	97	719	552	162	1363	819	1633	336	2647	2273	1288	275	54	29,175	
Maryland.....	Dec. 561	45	1442	243	2	152	497	1350	2	108	142	48	306	151	515	95	891	475	267	23	13	7,328
12 Mos. 6703	1095	22496	2224	62	1494	4399	18080	116	1813	1300	551	4880	2181	5192	1242	8964	6225	3682	412	164	95,227	
Mass.....	Dec. 1146	138	1427	346	224	371	6634	27718	226	3814	2178	899	7974	5169	13352	1758	18469	12423	710	381	46	10,563
12 Mos. 13903	2935	31497	4254	224	3717	9634	27718	226	3814	2178	899	7974	5169	13352	1758	18469	12423	710	381	46	10,563	
Michigan.....	Dec. 3649	351	7989	879	14	689	1676	8314	9	718	746	245	1919	739	2584	487	3424	3262	907	61	26	38,727
12 Mos. 35057	7593	106230	7781	165	6462	16814	84148	795	9892	8632	2205	20540	8618	25683	3371	32116	33121	11159	1036	222	430,321	
Minnesota.....	Dec. 1146	160	2526	438	2	262	665	1540	141	277	31	472	302	685	195	1455	836	567	38	1	11,854
12 Mos. 12807	1781	33144	3810	51	2628	7079	28891	633	3918	3615	596	6711	4944	6132	2300	13502	10440	7492	457	302	153,203	
Mississippi.....	Dec. 510	65	1014	142	7	109	189	663	2	36	84	19	167	55	206	42	649	308	156	14	2	4,431
12 Mos. 4712	676	12619	1028	68	716	1987	10075	50	446	575	249	2324	827	2272	337	4988	3462	2109	253	14	50,797	
Missouri.....	Dec. 1247	241	3414	428	9	376	785	2469	11	184	220	89	631	826	825	1614	2188	985	464	50	6	15,574
12 Mos. 12550	2349	43572	3549	110	3053	7195	34016	275	2274	2016	829	9398	6571	8642	1781	17698	10934	5935	801	76	174,394	
Montana.....	Dec. 255	51	509	64	31	114	306	4	37	44	13	92	32	157	35	203	157	92	16	2,212
12 Mos. 2601	490	7561	693	11	471	1411	5530	59	962	418	194	1430	768	1880	353	2457	1974	1899	265	22	31,249	
Nebraska.....	Dec. 611	69	1116	236	111	335	813	1	91	93	26	244	100	342	75	668	439	169	13	5,562
12 Mos. 5903	891	16295	1912	21	940	3039	13948	86	940	838	353	3379	1383	3429	704	6070	4966	2632	214	21	67,964	
Nevada.....	Dec. 67	29	138	42	20	30	74	15	13	8	110	17	30	13	73	194	45	3	910
12 Mos. 692	267	1638	267	2	165	282	1102	.....	192	77	99	498	225	347	67	581	547	478	78	2	7,672
New Hampshire.....	Dec. 136	16	287	46	3	27	80	245	2	27	20	5	66	38	110	16	130	115	66	11	10	1,454
12 Mos. 1513	267	4325	439	29	273	1005	3431	48	477	314	99	809	658	1133	240	1559	1482	742	210	101	19,154	
New Jersey.....	Dec. 2062	296	2594	862	22	651	1679	2190	17	362	488	133	1091	412	1627	312	2441	1417	758	114	103	19,631
12 Mos. 18640	3633	40700	6103	184	4163	11979	32905	352	4915	3607	1279	12700	5248	13924	3171	18291	16981	8978	1576	963	210,768	
New Mexico.....	Dec. 217	32	409	71	5	47	103	280	40	30	23	115	36	129	37	120	164	73	10	1	2,012
12 Mos. 2481	301	4947	575	83	321	974	3912	37	448	288	164	1629	584	1140	301	1714	1684	1419	282	44	23,289	
New York.....	Dec. 3960	598	8027	1434	24	1357	2636	4184	8	598	707	206	1713	748	2923	533	3902	2887	1298	527	527	35,327
12 Mos. 50401	12536	104415	15226	616	14297	32513	80110	1246	12063	9208	2992	28412	14879	39355	7823	46927	41517	20458	3947	8254	542,195	
Nth. Carolina.....	Dec. 887	101	1801	232	7																	



"One slip...and no customer"

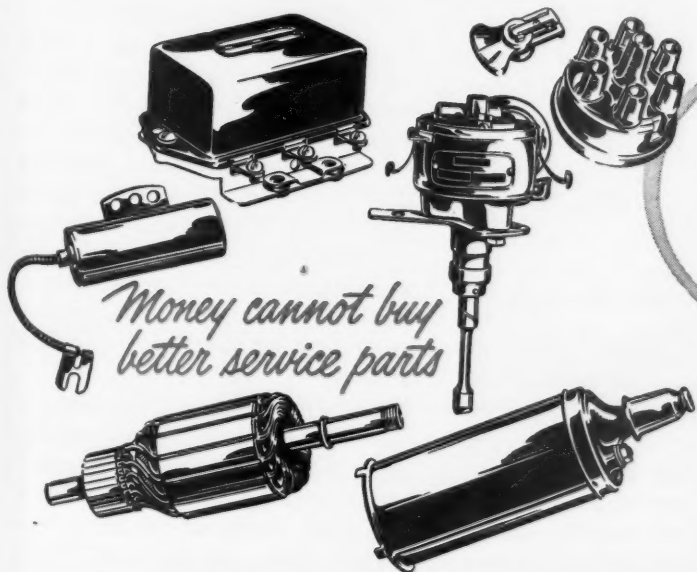
"Years ago I learned a lesson about service parts the hard way. One of my best customers needed a new coil. I replaced it with a substitute part. Just three days later that coil went on the 'fritz', and some other serviceman told him about Original Factory Parts. Well, that one slip lost me a customer, but it made me

decide there and then to use strictly Original Factory Parts . . . and I've never been sorry!"

Clifford Gould, 7105 West North Ave., Wauwatosa 13, Wisc.

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Chilton's MOTOR AGE Flat Rate and Service Manual

S e r v i c e S u g g e s t i o n s

The information presented here has been compiled from the Factory Service Bulletins, as an additional service of Chilton's Motor Age Flat Rate and Service Manual Department.

Selected by William H. Lutton,
Assistant Editor
Chilton Motor Age Flat Rate and
Service Manual

Extra Long Throttle Control Bell Crank on Studebaker

On some early 9G Champion models it is possible that the throttle control bell crank is too long and it strikes the vacuum spark modifier on the distributor, which in turn makes it very difficult to set the ignition timing.

When you find this condition, measure the bell crank. It should be 5 in. long. If it is longer than that, replace it with a new bell crank, Part #526798.

Re-Use of Hydra-Matic Transmission Oil

Any time that a Hydra-Matic transmission is drained for repairs and the oil has been in the transmission a relatively low mileage, it can be very satisfactorily reused for the balance of the 15,000 miles.

When the oil is to be reused, it should be strained through a fine mesh screen. Many times the oil will become usable if it is allowed to set from six to 10 hours during which time the suspended particles and sediment will settle to the bot-

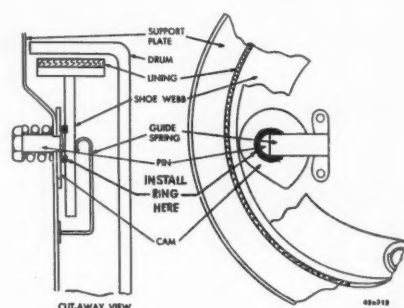
tom of the container and all but the lower portion may be safely used.

If you intend to reuse Hydra-Matic oil, be sure that it is drained into a clean container and kept covered until ready for use.

Stopping Brake Noise With Brake Shoe Cam Pin

On Plymouth cars in cases where a noise is present during the last few revolutions before braking to a stop, the following procedure is recommended to remove this condition:

1. Remove the wheel drum, and release the shoe return spring to allow the shoe to be pushed back



far enough so that the cam pin can be seen.

2. Now with a screw driver, lift the brake shoe away from the cam pin and install the ring over the protruding end of the cam pin. (Pin Ring is Part #1327054).

This ring prevents contact between the cam pin and the web of the shoe. In some cases you may find it necessary to file the cam

pin so that the shoe will rest on the ring and does not contact the cam pin. Illustration shows details of the brake shoe area and the ring (A).

Note: An improved brake shoe has been developed which helps reduce the tendency of the brakes to squeak and it is now being used on all current models P-19 and P-20 Plymouth cars. This new shoe can be identified by the presence of six holes which have been stamped on the table of the shoe at the toe end. (See illustration B).

Sealing the Plymouth Cowl Ventilator

In the event of a leak at the cowl ventilator on Plymouth cars, it may be sealed by the following methods.

The cowl ventilator lid may be readjusted to fit on the rubber seal properly by means of adjustment at the hinge screws. These hinge screws may be reached by opening the lid and reaching through the hinge screw slots in the screen. If the above adjustment does not give adequate compression on the weatherstrip seal, further pressure may be applied by elongating the slot in the link arm.

Leakage at the cowl ventilator that cannot be corrected by the above adjustments may be caused by an opening between the inner and outer panels of the cowl ventilator. This can be easily corrected by sealing with a sealer.

Sealed Power

PAX EBONITED PISTONS

are the only pistons made in which section of greatest wear can be replaced!



Every PAX Piston Equipped with GI-60 Contracting Groove Insert!

Every Sealed Power PAX Piston comes factory-equipped with the famous Sealed Power GI-60 Contracting Groove Insert—the only dependable, economical, long-lasting preventive of top ring groove wear!

This is a feature of vast importance to every fleet operator, because the top ring groove is the part of every piston that wears out first—the part subject to the greatest heat and the greatest pressure, and the part protected by the least lubrication.

By installing the Sealed Power GI-60 in every PAX Piston, Sealed Power has added thousands of miles of service!

Sealed Power PAX Pistons are manufactured from genuine Lo-Ex* Virgin Aluminum Alloy with silicon base, which dissipates heat most efficiently. Special Eboniting process assures smoother-running engine because piston surface is oil-impregnated, oil-absorbing. T-slot design, cam-ground, with rugged internal construction for extra strength and fast heat transfer.

*Registered trade mark of Aluminum Co. of America.

Write for name of nearest distributor
SEALED POWER CORPORATION
MUSKEGON, MICHIGAN

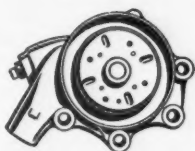
Always use Sealed Power parts for best results



HEAVY DUTY PISTONS—Aluminum or cast iron as indicated; exclusive T-slot design, cam ground, ruggedly designed, heat treated. Equal to or better than original equipment.

WET OR DRY SLEEVES—Machined from closely controlled castings, with exceptionally fine grain and dense molecular structure for long wear.

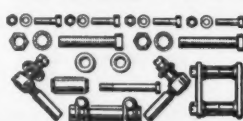
VALVES—Sealed Power Valves and valve parts are made from the correct grade of chrome nickel alloy steel for each engine, for finest performance and maximum service.



WATER PUMPS—Manufactured from finest quality materials to highest standards. Our line is complete.



KING BOLTS & BUSHINGS—Manufactured from highest quality forgings, and heat treated to meet your exact requirements.



TIE RODS & SHACKLES—Sealed Power Tie Rods, Spring Shackles, and Front Wheel Suspension Parts meet specifications of original equipment.

CLEARING HOUSE

FOR SERVICEMEN'S QUERIES



TROUBLE SHOOTING WITH JACK MONTGOMERY, Technical Editor

- Pinging Cadillac presents a problem
- Valve-burning troubles on Packard 6
- Cadillac leaks oil from rear main
- Fluctuating charging rate on Ford
- Oil leaks from Dynaflow on Buick
- Clutch trouble cured, cause unknown
- What will wrong battery hookup do
- Truck seems to run lean, checks ok

Complete Check Still

Doesn't Find Cause of Ping

I have a 1941 Cadillac which I bought three months ago. This car supposedly had a motor overhaul about a year ago. It gets a bad carbon knock when you accelerate between thirty and fifty miles an hour on the straightway. The motor runs very quietly; good oil pressure and oil economy; high test gas used only; distributor completely rebuilt and new vacuum advance; new and higher spark plugs installed. Starts very quickly and when it is hot or cold it averages twelve to thirteen miles per gallon. It doesn't foul plugs and never misses. The timing was checked a number of times. I would appreciate your helping me solve this problem. Mr. John Kapit, Liberty Auto Service, 17 Liberty Avenue, Brooklyn, N. Y.

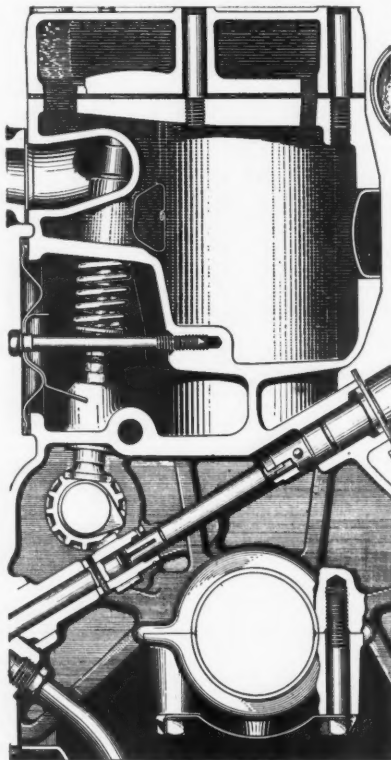
WITH reference to your 1941 Cadillac that pings when accelerating from thirty to fifty mphs, I would suggest first of all that the distributor be removed from the car and the vacuum and centrifugal advance be checked on a reliable tester. The distributor should be part number DR 1110807 and set to the following specifications: Cam angle 3 deg.; Centrifugal advance 12 degs.; and 9 degs. vacuum advance. Then recheck the ignition timing. Spark should occur 5 degrees before T.C. or when the IG/A mark on the damper lines up with the pointer. There is also the possibility that the cylinder heads were planed when the engine was over-

hauled. This would raise the compression rates and would make it necessary to retard spark slightly.

Valve Burning Problem

On a 6 Cylinder Packard

Will you please send me any suggestions you may have about the burning of valves in a 1946 Packard 6. I get about 6000 to 8000



miles to a valve job. I reseated the valve seats with a reseater and new exhaust valves were also put in. Edward Rishel—Rishel's Garage, R.D. No. 1, Punxsutawney, Pa.

THERE are a number of reasons for burning valves and each one should be checked very carefully. First of all, the correct clearance is most important as insufficient clearance will hold the valve off its seat, preventing contact with the cooler material. Not only is the valve prevented from getting normal cooling, but it is exposed to a flame around the head and under the head. Sticky valves are another cause for burning. But this, usually occurs in the intake valve, due to carbon building up underneath the head. The valve guides should be checked for wear and if excessive wear is found, replace the guides for it is impossible for a valve to seat with sloppy guides. The cooling system should be thoroughly cleaned and the water distribution tube replaced. Replacing this tube is most important as this directs the water to cool the seats. Also, make sure that the exhaust manifold heat damper is operating.

Cadillac Leaks Oil

From Rear Main Bearings

I have subscribed to MOTOR AGE for over 36 years and would like to ask a question from Clearing House. I have a 1937 Model 60 Cadillac that leaks oil at the rear main bearing. The bearings are not bad. What is the best way to stop this? W. H. Slaight, Fairbury, Ill.

(Continued on page 74)

**Less Time
On the Job...**

**More Money
in the Till!**

CLEAN *and* **POLISH**

**Cleans, Polishes, Seals
in ONE Easy Operation!**



VITRI-GLAZE dissolves road scum, grease, etc. Cleans by gentle abrasive action; removes dead pigment but does not cut into live paint. Buffs the clean finish by Polisher's buffing action. Seals car surface against road scum, excessive weathering.

NEW! For Faster Feather-Edging



USE THE AMAZING, new Van Dorn Feather-Edging Attachment (shown here) with 7" Sanders. It eliminates practically all hand sanding. Feather-edges old finishes in 1/2 to 1/5 time of old methods. Gives satin-smooth finish. Completely foolproof—no danger of deep scratch lines—because sanding disc stops and felt pad slips past it when pressure is too great! Quick-acting twist-lock plunger makes disc changing faster, easier!

with Van Dorn Polishers and Vitri-Glaze!

High labor costs are your biggest profit-eater on polishing jobs. But when you team up speedy Van Dorn Electric Polishers and one-shot Vitri-Glaze, you finish jobs faster—cut labor costs—make more money!

Improved Van Dorn Polishers have 30% more power—the best spindle speed for fast work and brilliant finish—perfect balance to cut operator fatigue. You have your choice of three models: Van Dorn Automatic Polisher, equipped with pump, reservoir and thumb-operated plunger for unique automatic polish feed—Van Dorn Standard Polisher, all features except pump and reservoir—Van Dorn Special Polisher, perfect for small shops and touch-up. Ask your nearby Van Dorn Distributor to demonstrate these money-making polishers and amazing Vitri-Glaze. Write for free catalog to: THE VAN DORN ELECTRIC TOOL CO., 727 Joppa Road, Towson 4, Maryland.

**For Power
Specify**



**Portable
Electric
TOOLS**

(Div. of Black & Decker Mfg. Co.)

Clearing House Continued from Page 72

USUALLY when the leak develops at the rear main bearing on a '37 Cadillac it is due to one of the following: Excessive bearing clearance; too much crankshaft end-play or a poor seal between the main bearing cap and the crankcase. I would suggest removing the oil pan and the rear main cap. Clean cap thoroughly and install new

corks and replace the lower half of the center main bearing to remove the end-play.

Electrical Problem Is Unsolved on '41 Ford

Our problem is on a 1941 Ford. The ammeter hand varies from the

0 to 25 amp. at a fast vibration. We have installed new voltage regulator, generator and all wires including battery terminals. Any suggestions would be appreciated. McKinney's Mobile Center, 100 Rehoboth Avenue, Rehoboth Beach, Del.

SINCE all new units were installed and the trouble still exists on your 1941 Ford, the trouble is probably due to a poor ground either at the generator or regulator. I would suggest running a ground wire between these two units. Also make sure the ammeter is not at fault. There is also the possibility that one of the units is defective.

INSTALL THEM WITH CONFIDENCE IN BADLY WORN CYLINDERS

Install Burd Super Hi-Speeds with your best "know-how" . . . then relax. For everything about these fine-as-they-come piston rings is in your favor. A specially designed, wide-channel cast iron ring—plus a properly ventilated expander—assures uniform contact over the entire cylinder wall. Then two steel segments positioned below the cast ring produce additional wiping action without excessive wear. So sell them with profit and install them with confidence. You'll find that Super Hi-Speed Combination Sets control oil better in any tough cylinder job that comes your way!

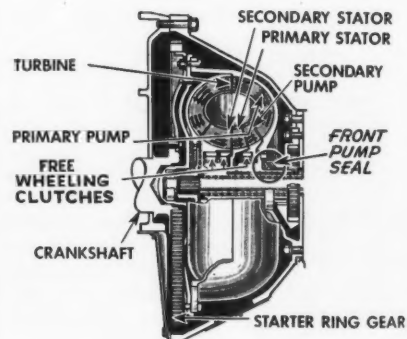


BURD PISTON RING CO.
ROCKFORD, ILLINOIS



Oil Leaks from Dynaflo On a Buick Roadmaster

Could you help us with a Dynaflo problem on a 1949 Buick Roadmaster? This car has 25,000 miles on it and is in very good condition except that it leaks oil from the transmission. It seems to be coming from the front end. Could you brief us on how to correct this leak? Lansdowne Auto Service, Philadelphia, Pa.



SINCE it is leaking at the front end of the transmission, I am inclined to believe the oil is leaking past the front pump oil seal. In order to replace this seal it is necessary to remove the transmission from the car and to disassemble the torque converter. The oil seal is pressed into the oil pump cover. The cover and the seal are supplied as one unit. If the hub on the primary pump is grooved that should be replaced also.

(Continued on page 76)

Now...they sell...

Only Purolator...

...and Purolator alone

has the new

DIRT-CHECK WINDOWS

No GUESSWORK with Purolator! No sir, not with the Purolator Micronic* Refill with the New DIRT-CHECK WINDOWS!

These scientifically located, wide-open windows tell the exact condition of the refill at first glance!

They save time for everyone! Dealer—and the motorist—see and know. Dirt-Check Windows clinch the sale *then and there*. They make the operation so simple, so easy and quick that the motorist comes back again and again for filter-checks.

Only Purolator has this feature! Only Purolator... the refill that has 10 times greater filter area... the refill that traps dirt measured in microns (.000039")... the filter that won't warp, distort or disintegrate... the refill that leaves the additives *in*.

Remember: Purolator has the demand! In a recent, nation-wide survey, 9 out of 10 motorists bought Purolator* Micronics when told they needed refills.

*Reg. U. S. Pat. Off.



PUROLATOR PRODUCTS, INC.
Rahway, New Jersey and
Toronto, Ontario, Canada

Chilton's MOTOR AGE, MARCH, 1951

...and sell

...and sell

**Easier and
Faster**



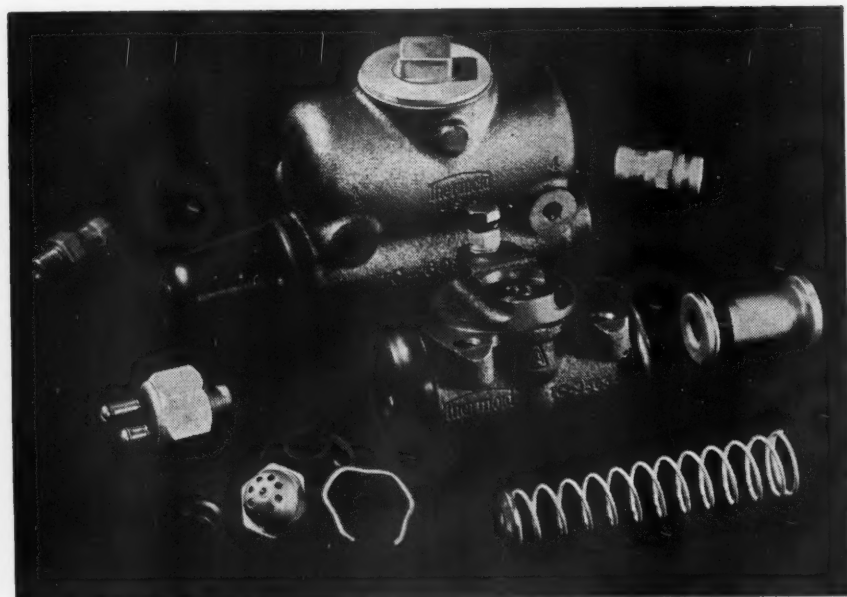
Clearing House Continued from Page 74

Overdrive Lubrication

Question on Fords

What is the right grease to use in 1950 Fords with overdrives? Is the transmission a separate unit? Must the overdrive be greased or does it feed from the transmission? Is EP90 okay? I have had too many different answers. Fred M. Deen, Deen's Garage, 2227 Fifth Street, S. W., Akron, Ohio.

THE overdrive has a filler plug and a drain plug. But due to the inconvenience of the plug on the overdrive, it is easier to fill the transmission, and the lubricant will flow into the overdrive. When using this method, allow sufficient time for the lubricant to flow back into the overdrive. EP90 is okay for warm weather and SAE No. 80 for cooler weather.



Your Own Experience Tells You . . .

The Thermoid Name Means Top-Quality

When you see the Thermoid name on brake lining it is your assurance that the brake job will be right the first time.

*It's the same with
Hydraulic Brake Parts*

Always use genuine Thermoid hydraulic brake cylinder assemblies for complete replacement or Thermoid brake cylinder repair kits and parts for precision brake service.

Thermoid

*the standard of precision processing in
brake lining; brake blocks; hydraulic fluid;
cylinder assemblies; hydraulic brake parts.*

Thermoid Company • Trenton, New Jersey

Question on Swapping Engines on Plymouths

I have a 1933 Plymouth. The motor was just rebuilt. I have a chance to get a 1937 Plymouth sedan. Could I put my motor in that body? Robert Budgick, Triangle Service Station, 501 Division Street, Trenton, N. J.

REGARDING your letter on installing a 1933 Plymouth engine in a 1937 or 1938 model, the engine will fit but it will be necessary to swap flywheel housings and transmissions. Everything else will fit perfectly.

Hudson Clutch Trouble Cured But Cause Never Found

Recently we had a 1948 Hudson come into our shop with the customer complaining of a slipping clutch. We immediately drained the clutch oil and refilled it with the right amount of proper oil. But it didn't help the condition. We removed the clutch and found it worn a little but not enough to cause it to slip. However, we sold the customer a new cover assembly and

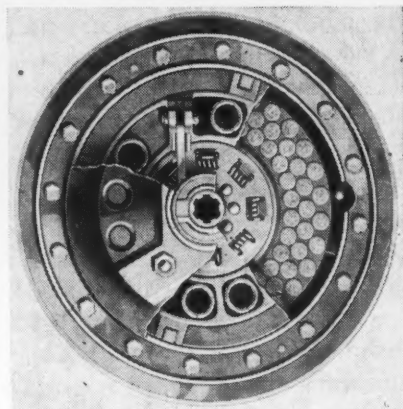


plate and the job turned out fine. What could have caused the trouble? Jack's Auto Service, Eugene, Oregon.

THERE are a number of reasons why old one slipped, such as the corks being glazed, weak clutch cover springs or a sticking throw-out the bearing. I think the trouble was caused by the clutch working without oil at some time or other. This would cause the corks to chip and the cork particles to get in between the pressure plate cover thus preventing the plate from releasing.

(Continued on page 78)

PP Snap-on Tools

help a man deliver service...and that's what *SELLS* service



Idle Motors, Chrysler-Plymouth dealer, River Grove, Ill., has built a county-wide reputation for service. Plenty of good mechanics, with plenty of good Snap-on Tools, according to Service Manager William J. Mayer, help keep service prompt and profitable.

● The whole Idle Motors operation is outstanding—381 front feet of display window, backed by service facilities for 40 cars at once! Service work is plentiful—and profitable—in this fine shop. Certainly, Idle Motors' splendid equipment of Snap-on Tools, by helping every mechanic do a better, faster, surer job, has helped, too, to build the reputation that brings in a steady volume of service business. Snap-on professional tools have helped thousands of shops—tens of thousands of mechanics—to increase incomes 20 to 40 per cent. Snap-on's in-the-shop, right-at-the-bench SERVICE has, for 30 years, offered "the time-saving way to buy time-saving tools." Write for 104-page catalog.



SNAP-ON TOOLS CORPORATION

8036-C 28th Avenue
Kenosha, Wisconsin

*Snap-on is the trademark of Snap-on Tools Corporation.

800 strong!
Snap-on men like these
give you Snap-on service
coast-to-coast!



Henry Kelm
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Don Headrick
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New York Branch



Andy H. Anderson
Oklahoma City Branch



Hugo Biegel
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Omaha Branch



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Denver Branch



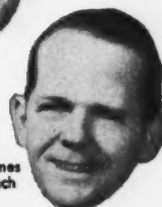
George A. Sprong, Jr.
Albany Branch



Harry Schadick
Boston Branch



W. G. Clarkson
Toronto Branch



J. Richard James
Houston Branch

What Happens If Battery Is Hooked Up Backwards

What happens when a battery is installed in a car, where the negative post should be grounded, if the positive post is grounded? Will the generator discharge the battery or will the battery charge in the regular way through a change of polarity? What difference will it

make if the car is equipped with a voltage regulator or the old type cut out? *Harold Jensen, Trufant, Michigan.*

ON cars equipped with voltage regulators, installing the battery backwards would cause the points to burn rapidly in the regulator. The reason for this is that the regulators have different metal

on the contacts for negative ground than positive. But the battery will charge in the regular way, up until the time the points fail in the regulator. On cars equipped with just a cut out no harm at all will result. The battery will take the charge but the ammeter will read backwards.

What is the Cause Of Point Discoloration

Can you give me information regarding distributor point discoloration? One point of a set will be a dark blue, but not burned as when a condenser goes bad, instead it will be very smooth almost glossy like porcelain. Sometimes it will be the stationary point and at other times the movable arm. The same car will usually repeat the process in the same way rather regularly. *H. E. Seybold, Lincoln, Neb.*

THERE are several reasons which could account for the discoloration, such as high voltage in the electrical system or loose connections or faulty voltage regulator. Therefore, I would suggest that all the electrical connections be tightened and the voltage regulator setting be checked. Also the driving habits have to be considered when selecting a condenser of proper capacity because high speed drivers would have a condenser of lower capacity than the slow speed drivers. Why the stationary point burns at one time and the movable arm the next time on the same car is hard to understand. Usually a positive grounded car's points will burn on the opposite side to a negative grounded one.

(Continued on page 82)

EDELMANN

Forges Ahead

1909
1951

Carrying on a tradition of leadership for 42 YEARS!

Edelmann's constant pioneering and "precision-engineering" of basic automotive parts and equipment are your assurance of ever-popular, fast-moving products. These essential service tools and parts are manufactured with meticulous care and top quality materials to insure complete customer satisfaction and repeat business for you.

- IGNITION TIMING LIGHTS
- TUBE CUTTERS & BENDERS
- FLEXIBLE FUEL & OIL LINES
- HIGH PRESSURE GREASE HOSE
- BATTERY TESTERS AND FILLERS
- BATTERY SERVICE KITS
- ANTI-FREEZE TESTERS
- BRASS FITTINGS
- FLARING TOOLS

*Get Ahead,
Stay Ahead
with*

E. EDELMANN & CO.
2332-56 LOGAN BOULEVARD
CHICAGO 47, ILLINOIS



"Are these what you're looking for?"



“You can’t help but admire Kingsley — super-service to the last!”

Ole Kingsley isn’t worried about the station. But with all those people around he has to keep up his reputation — as long as it’s good, he’s in business.

That’s why Kingsley won’t handle anything but nationally advertised, Post-advertised brands in his new station. He knows that a station’s reputation depends on its handling lines that people know, ask for and expect.

Take a tip from ole Kingsley. Stock the brands that build reputations and *sell fastest* — the Post-advertised lines. They do because the Post carries more automobile advertising to more people than any other magazine in the world.



**-gets to the
heart of America**

NEW CHAMPION SERVICE UNIT

"GREAT CUSTOMER-CONVINCER"

Says JOE VAN HAMME
WARREN-HEREFORD SERVICE
DETROIT, MICHIGAN



**THERE'S NOTHING LIKE A
DEMONSTRATION SALE!**

ORDER YOUR CHAMPION F-600 UNIT NOW!

Listen to the CHAMPION ROLL CALL...Harry Wismer's fast sportscast, every Friday night, over the ABC network

UPS PLUG SALES EVERYWHERE!

**"F-600 UNIT HAS EASILY
DOUBLED OUR SPARK PLUG BUSINESS!"**

JOE VAN HAMME

Warren - Hereford Service
Mobilgas and Mobiloil

17811 EAST WARREN AT HEREFORD
DETROIT 24, MICHIGAN
TUXEDO 1-9856



November 6th, 1950.

Champion Spark Plug Company
Toledo 1, Ohio
Gentlemen:

We purchased one of your Model F-600 Service Units in August. Our spark plug business at that time was limited and after installing your Service Unit we were able to prove to the customer that his spark plugs had lost their efficiency by comparing them with new spark plugs. In that way we dispelled any doubt in the customer's mind about the need for replacement.

We have easily doubled our spark plug business since putting in this F-600 Service Unit and firmly believe the unit will pay for itself in increased sales.

Very truly yours,
WARREN-HEREFORD SERVICE

Genl. L. Waterman
Joseph C. Van Hamme

C. L. WATERMAN



BE A CHAMPION DEALER IT PAYS!

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

Clearing House Continued from Page 78

Damaged Engine Causes Complicated Troubles

I have a 1940 Cadillac V-8 Model 72 which is a headache. While driving it about 40 miles per hour a connecting rod broke. Before I could stop the car the broken rod on the No. 4 cylinder must have wrapped around the crankshaft and broke the skirts on the No. 2 and

No. 3 pistons. It also wedged against the camshaft and sheared the key in the timing gears, but it did not bend the camshaft. After I reassembled the engine, it started at once but it only hit on the four back cylinders, that is on 5-6-7-8. After the compression was checked, it was found to be from 95 to 110 lbs. But with the engine running, it had no compression on the front cylinders

and we thought the valves were sticking, so we ground and set them at .060 in. clearance. It still wouldn't fire on 1-2-3-4. When turning the engine over faster the valve tappets would fill up with oil and hold the valves open in those four cylinders. We replaced eight new valve tappets but with no change. So we put in new valves, valve guides, and springs and still there was the trouble. Finally, we took the little springs out of the lifters and welded them solid. Now it runs fine after it warms up but it misses when cold and the tappets are a little noisy. What could be the cause of this trouble with the car. I tried all different grades of oil and even installed an oil filter and nothing seems to remedy this trouble. John A. Dapporn, Dapporn Garage, 224 E. Main Street, Sleepy Eye, Minn.



JOHNSON CAMSHAFT BEARINGS

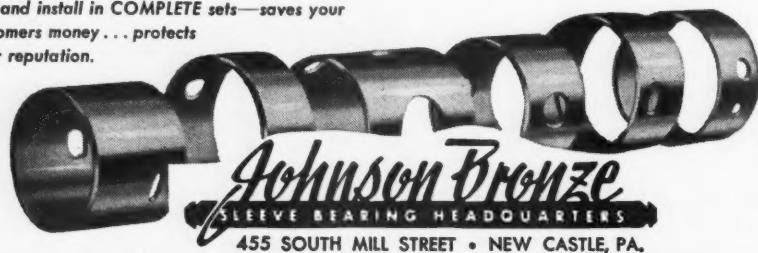
IMMEDIATE service on complete sets of

Johnson camshaft bearings for all popular makes of cars, trucks and buses is now available. Like every other item in the Johnson line, our camshaft bearings are of the highest quality possible, made to precise dimensions, ready for immediate installation.

When you buy, sell or install Johnson bearings you are assured of the maximum in smooth, quiet, economical performance. You cannot buy better bearings at any price. Write today for a copy of our latest catalog.

Stocks carried in all principal cities.

Sell and install in COMPLETE sets—saves your customers money . . . protects your reputation.



YOUR valve problem on a 1940 Cadillac is very interesting, especially after having checked the valve system many times. It would be impossible for the valves to be too tight if .060 clearance was allowed in the beginning, unless the camshaft was bent. I was wondering how you checked the camshaft for bends. As you know it would have to be removed and set up in blocks for this check. I would suggest the camshaft be removed and checked for bends and the tappet clearance gone over. A suitable gauge for checking the valve clearance is to cut a piece of round stock exactly three inches long. Place the tool between the end of the valve and the camshaft.



"Doesn't the money I pay for a license entitle me to any privileges?"

**ALWAYS
CLEAN THE
CARBURETOR
FIRST**

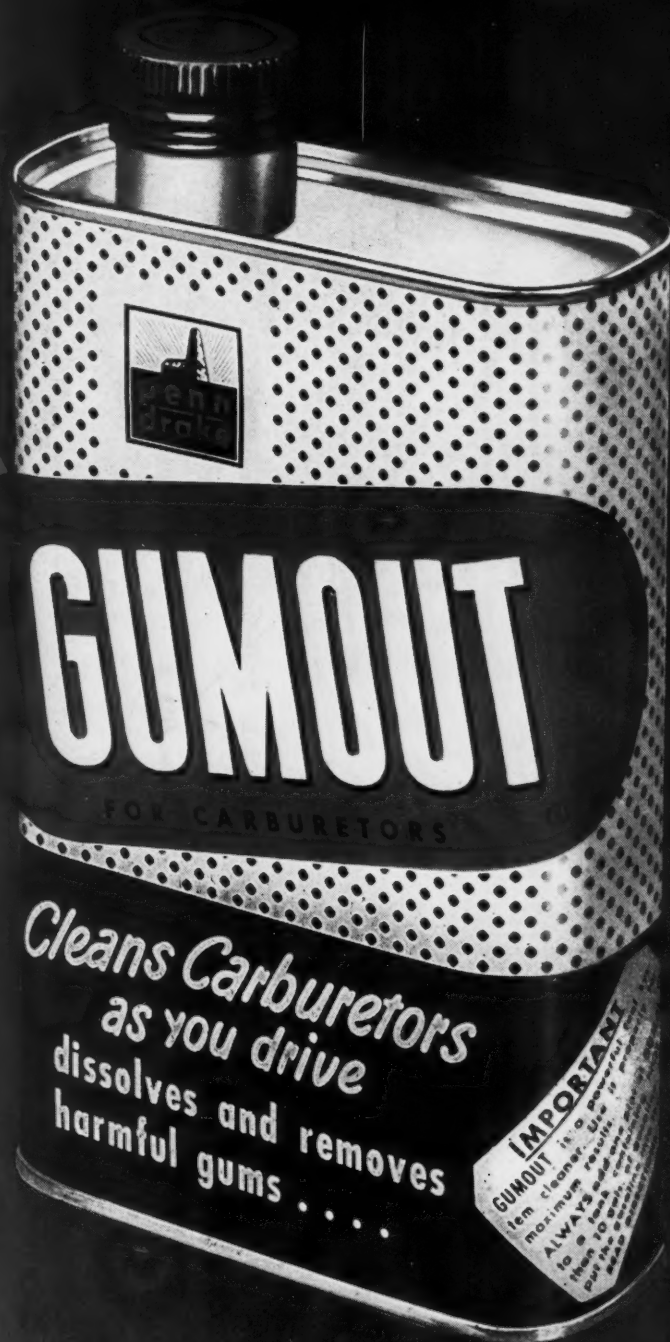
... with

THE
ORIGINAL
"ON THE ENGINE"
CARBURETOR
DETERGENT

*A speck of gum or muck in
the carburetor will cause
these troubles...*

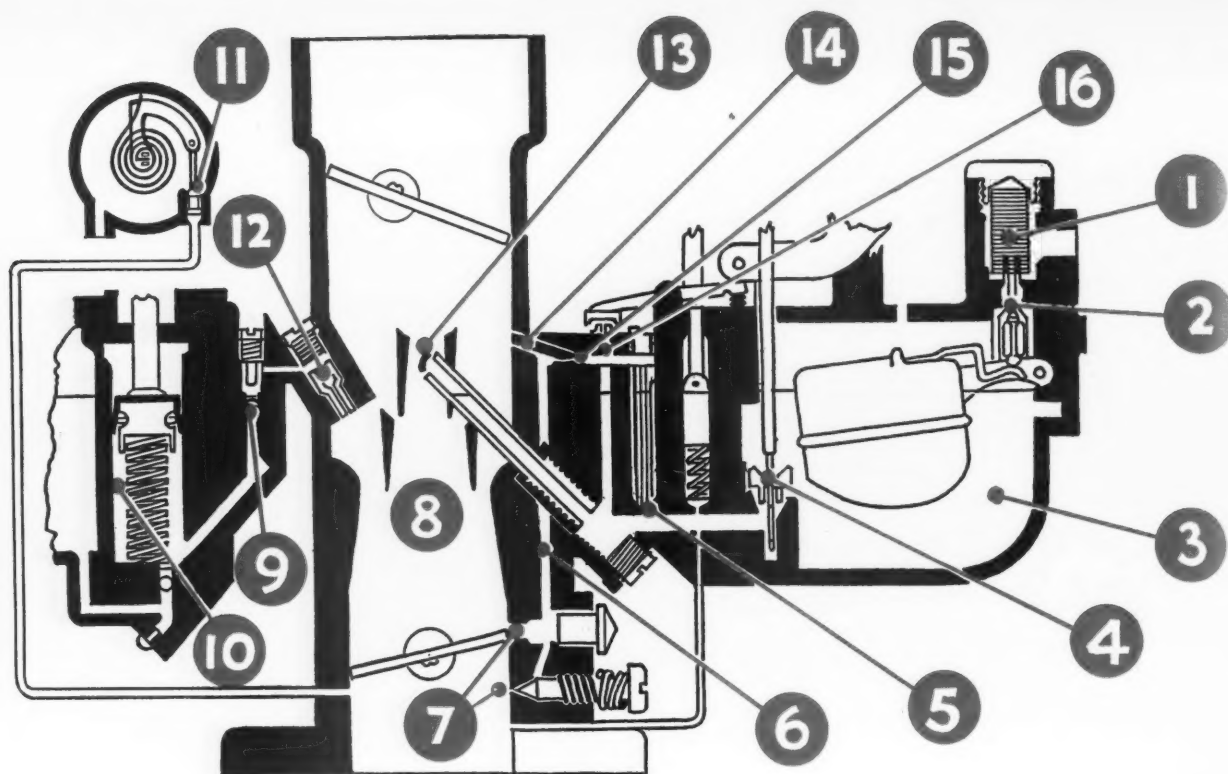
- HARD STARTING • FLOODING
- SLUGGISH PERFORMANCE
- FLAT SPOTS • LOW TOP SPEED
- HIGH GAS CONSUMPTION
- STALLING • ENGINE POPPING
- SLOW PICK-UP • ROUGH IDLE

... that's why you should always "clean
the Carburetor first with GUMOUT." Re-
placing or adjusting spark plugs, timing
or points is a waste of time and effort if the
trouble is in the carburetor ... as it often
is! Always "Clean the Carburetor first
with GUMOUT."



**Here's how to clean
carburetors in less
than 20 minutes...**

Clean the "16 PASS-PORTS" to Carburetor Trouble



"PASS-PORTS"	TROUBLE	DIAGNOSIS	CURE
1 Screen	Gum, Muck	Insufficient Gasoline, Hard Starts	GUMOUT
2 Needle Valve & Seat	Gum, Muck	Flooding, No Gasoline	GUMOUT
3 Float & Bowl Assembly	Gum, Corrosion	Sluggishness, Bucking, High Gas Consumption	GUMOUT
4 Metering System	Gum, Muck	Stalling, Sluggishness	GUMOUT
5 Low Speed Jet	Gum, Muck	Stalling, Rough Idle	GUMOUT
6 Low Speed Passages	Gum, Muck	Low Speed Bucking, Stalling	GUMOUT
7 Idle Ports	Gum, Muck	Stalling, Wasted Gas, Rough Idle	GUMOUT
8 Venturi & Intake Manifold	Gum, Varnish	Low Vacuum, Hard Starts, Sluggishness	GUMOUT
9 Accelerator Passages & Valves	Gum, Muck	Slow Pick-Up, Bucking, Flat Spots	GUMOUT
10 Accelerator Piston & Cylinder	Gum, Muck	Flat Spots, Lazy Pick-Up	GUMOUT
11 Automatic Choke Piston, Passages	Gum, Muck	Hard Starts, Wasted Gas, Stalling	GUMOUT
12 Accelerator Pump Jet	Gum, Muck	Flat Spots, Slow Pick-Up	GUMOUT
13 Hi-Speed Jets and Nozzles	Gum, Muck	Low Top Speed, Popping-back, Sluggishness	GUMOUT
14 Air Vents & Bleeds	Gum, Muck	Wasted Gas, Poor Idle, Hard Starts	GUMOUT
15 Economizer System	Gum, Muck	Stalling, Sluggishness, Rough Engine	GUMOUT
16 Anti-Percolator Passages	Gum, Muck	Vapor Lock, Engine Failure	GUMOUT

If the engine sputters or stalls ... if it lacks pep, power, pick-up ... 16 to 1 it has miseries that can be cured only by cleaning the carburetor!

At the first sign of engine trouble ... With every tune-up job ... At every 2,000 miles ...

CLEAN THE CARBURETOR FIRST with GUMOUT!

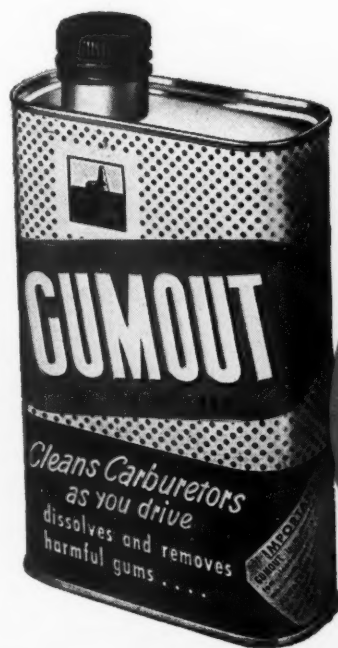
IN LESS THAN 20 MINUTES!

... with GUMOUT and the GUMOUTER

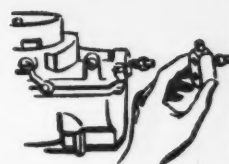
You can clean carburetors with GUMOUT *in less than 20 minutes at a cost of only 90c . . .* or you can clean them the old-fashioned way in a couple of hours at a cost of three or four dollars, or even more!

GUMOUT is a special purpose product—made specifically to clean carburetors on the engine. GUMOUT instantly removes and dissolves all gum, muck, dye, lacquer, varnish and moisture in one quick, safe application . . . and you don't have to take the carburetor off the engine!

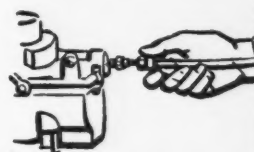
No other product is similar to or equal to GUMOUT in any respect! Don't accept substitutes. GUMOUT is the original and largest selling "on-the-engine" carburetor detergent in the world!



GUMOUT may be applied directly to the carburetor or may be added to the fuel tank.



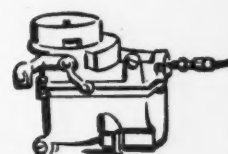
Disconnect and plug fuel line.



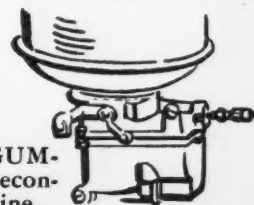
Attach GUMOUTER tube to carburetor.



Suspend GUMOUTER can above engine.



Run engine at all speeds.



Remove GUMOUTER. Reconnect fuel line. Clean up outside of carburetor.

**TURN
90¢
INTO...**

\$3.00
(OR MORE!)

One application of GUMOUT

(see preceding pages)

CLEANS carburetor, automatic choke, fuel lines, fuel pump, gasoline tank.

REMOVES gasoline gum, muck, dye, varnish, lacquer, moisture.

PROTECTS internal parts from rust and corrosion.

... in less than 20 minutes ... at a profit of \$2.10 for you!

You Charge:	\$3.00
Your Cost:	.90
Your Profit:	\$2.10
	(OR MORE)

GUMOUT is non-acid, non-caustic, non-toxic, non-corrosive. It is completely safe to hands, clothing, leather, fuel system and engine parts. *Results are guaranteed or your money back!*

Always Clean the Carburetor First ... with GUMOUT

"the original and largest-selling 'on-the-engine' carburetor detergent in the world!"



PENNSYLVANIA REFINING COMPANY

CLEVELAND 4, OHIO

Butler, Pennsylvania • Edgewater, New Jersey

Refiners of Penn Drake Petroleum Products Since 1880

GUMOUT DIVISION,
Pennsylvania Refining Company,
2686 Lisbon Road,
Cleveland 4, Ohio

Please Send

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- ☐ cases of GUMOUT (24 pints each)
at \$21.60 per case.
- ☐ GUMOUTER KITS at \$2.95 each.
- ☐ additional information about GUMOUT.

Name.....

Company.....

Address.....

City..... Zone..... State.....

Jobber's Name.....



RETAIL
LIST PRICE
\$1.50

Order GUMOUT from your Jobber today. If he can't supply you, send us your order and your Jobber's name—and we'll give you a can of GUMOUT free!

break indicating a severe strain. This also holds true for a break due to a jammed instrument, so try spinning the speedometer with a short piece of cable, to see if the head is free. If the cable did not break due to freezing or a jammed head, the probable cause is fatigue of the metal. Possibly there was a binding at a kink in the housing which would wear out the cable. If the cable shows any signs of abrasion at any point, replace both the cable and the housing. But if it looks O.K., check the drive gear at the transmission. This can be done by running the car on the road with the cable disconnected at the speedometer. If the cable rotates the drive gear is O.K. Otherwise it should be replaced.

If the speedometer does not register, but the odometer does, the probable cause is a demagnetized magnet. In this case the unit should be disassembled and the magnet remagnetized. Sometimes the needle shaft will break, however, and should be examined if the speedometer does not register.

Excessive grease in the speedometer head will usually cause inaccurate readings and sometimes fluctuations. Clean all parts of the speedometer with carbon tetrachloride and dry them with compressed air. This cleaning process, of course, should be done whether the speedometer was excessively greasy or not. However, in order to prevent further contamination from grease working its way up from the transmission, replace the seal at the transmission where the lubricant has seeped through. Also, it helps to drill a small hole in the cable housing where it enters the speedometer, so that the grease that works past the seal will drain off.

Other causes of inaccurate speedometer readings are too much or too little magnetism in the magnet or an improperly adjusted hair spring, both of which can be corrected by recalibration. Also, check the tire size, as the

wrong tires may give incorrect readings to both the speedometer and odometer. A special speed adapter will correct this.

Noisy operation, is caused either by dry or worn cable, or by wear in the housing, in the thrust washer or on the shaft. This condition is usually accompanied by fluctuation, since the magnet does

not spin exactly within the center of the speed cup. To correct these symptoms disassemble the speedometer and examine the above mentioned parts for wear and make the necessary replacements. If the housing is worn at the shaft bearing surface point, the entire housing should be replaced. The thrust washer should always be replaced when overhauling a speedometer, since this part is subject to more rapid wear than
(Continued on page 88)

MEMORANDUM

New Automotive Wet Sander Made by National



Model 300A

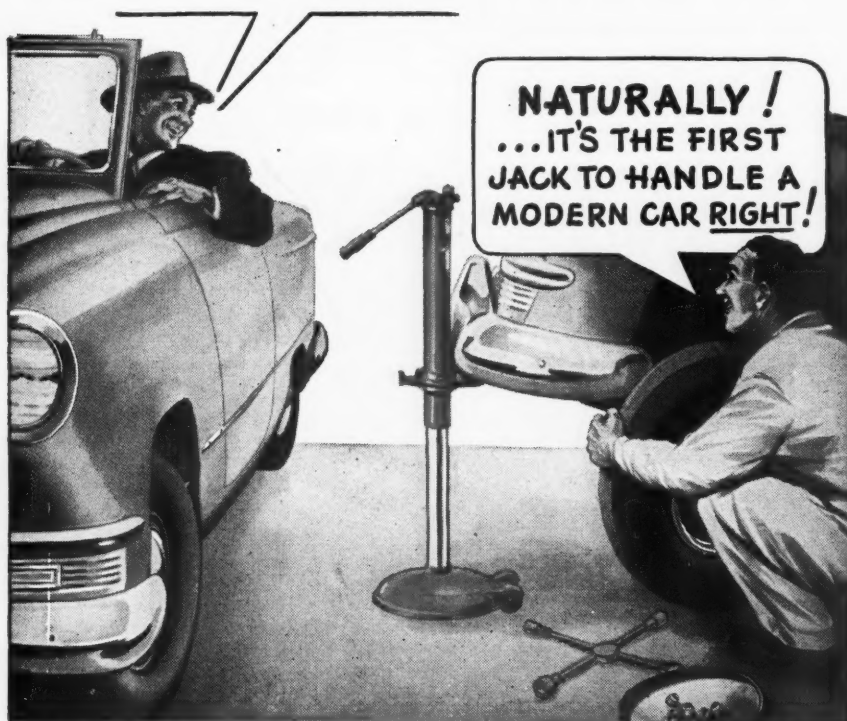
Weights 5½ lbs.-Fast-Efficient

National's new Model 300A is specifically made for automotive sanding. It is extra fast . . . operating at 2500 strokes per minute. A specially designed pad doubles its efficiency, and can be used on different surfaces without change. Built-in water outlets provide efficient wet sanding. See your jobber, or write for details.



NATIONAL AIR SANDER, INC.
2820 AUBURN ST., ROCKFORD, ILLINOIS

"EVERYWHERE I GO I SEE LIFT-POST"



Thousands of LIFT-POSTS are now in action. And you'll see thousands more! All other jacks are out-dated for quick wheel service on modern cars. Hydraulic LIFT-POST not only gets the car up faster ... *Deep-skirted fenders go up, too!* The whole wheel is exposed. You are free to work fast — do better work — and boost profits on flat-rated jobs and other service. And LIFT-POST costs less than a curb jack. Get one or more from your Jobber NOW!

Make more money on jobs like these:

- Changing tires
 - Washing wheels
 - Washing under fenders
 - Putting on chains
- Changing wheels
 - Emergency road calls
 - Fender and body work
- Inspecting brakes
 - Packing wheel bearings
 - Installing tail pipes
 - Locating squeaks

A product of Blackhawk Mfg. Co., Dept. J-690, Milwaukee 1, Wis.

BLACKHAWK

"PORTO-POWER" • HYDRAULIC JACKS • WRENCHES

Speedometers . . .

Continued from Page 87

other parts and its cost is so slight that nothing is gained by using the old one.

Occasionally the hair spring will break, so examine this to be sure that it is intact and replace it if necessary. Note whether the numbers line up evenly across the cylinder. Misalignment is an indication of wear in these parts, in which case the entire cylinder should be replaced.

Changing the mileage reading is a simple procedure. Remove the end clip and slide off the separate numeral rolls. Reinstall them in the position which will give the desired reading.

If the odometer does not operate, examine the worm gear and drive gear. These parts will often wear to the point where they do not always engage and the instrument will register intermittently, if at all. Replace these gears, if necessary, and apply a light coat of high quality chassis grease to them.

If the gears appear to be in good condition, the trouble is in the odometer cylinder which should be replaced. Also apply the same kind of grease to the magnet shaft before installing it in the housing. Do not overlubricate, as this will cause premature failure of the instrument due to gummed up parts.

After the speedometer has been overhauled, a final calibration step is necessary. This includes magnetizing or demagnetizing the magnet, adjusting the hair spring and testing the instrument on a master tester. Since special equipment is used for both magnetizing and testing, the instrument should be calibrated by a specialist.

Remove and lubricate the cable before connecting it to the speedometer. Use high quality chassis lubricant for this. Finally, road test this car to observe the operation of the speedometer. Sometimes an instrument which tests perfect will fluctuate in the car due to a kinked cable. If this happens, check the cable housing for sharp kinks and relocate the clips, if necessary.

Continued from Page 46

"Yes'm," said Tommy swallowing hard on that one.

"Well, I must go in here," Mrs. Burlingame touched him lightly on the arm. "You will take a look at our car tomorrow morning then? I'll be over with it about nine."

"Fine," said Tommy with his best smile. "I'll tell Pop."

When Mrs. Burlingame drove in, Tommy took her back down town then he and Larry lifted the hood and went to work.

The Chevrolet undeniably had noisy tappets, and it had the look of a car that had been driven 45,000 hard miles.

Larry adjusted the tappets while the engine was still hot and the tappet noise disappeared. Except on one valve. Larry set and reset, set and reset and finally he slipped his wrench and screw-driver in his hip pocket. "She don't get this one back tonight or I miss my guess," he said, shifting his cigar to the other side of his mouth.

"What else does your guess tell you?" asked Tommy.

"Maybe just a sticking valve, but . . ."

"Shall we run some tune-up oil through it?" Larry nodded and went for the container. But the tune-up oil this time wasn't the answer.

"Pull the head," he said abruptly. "Then call me." And he started to walk away. "Wait a minute," he growled. "I'd better take a compression reading. Pop might ask."

The compression reading wasn't noticeably lower on this particular cylinder, but on all six it averaged about 90. "That does it," Larry grunted as he straightened up. "All carboned up."

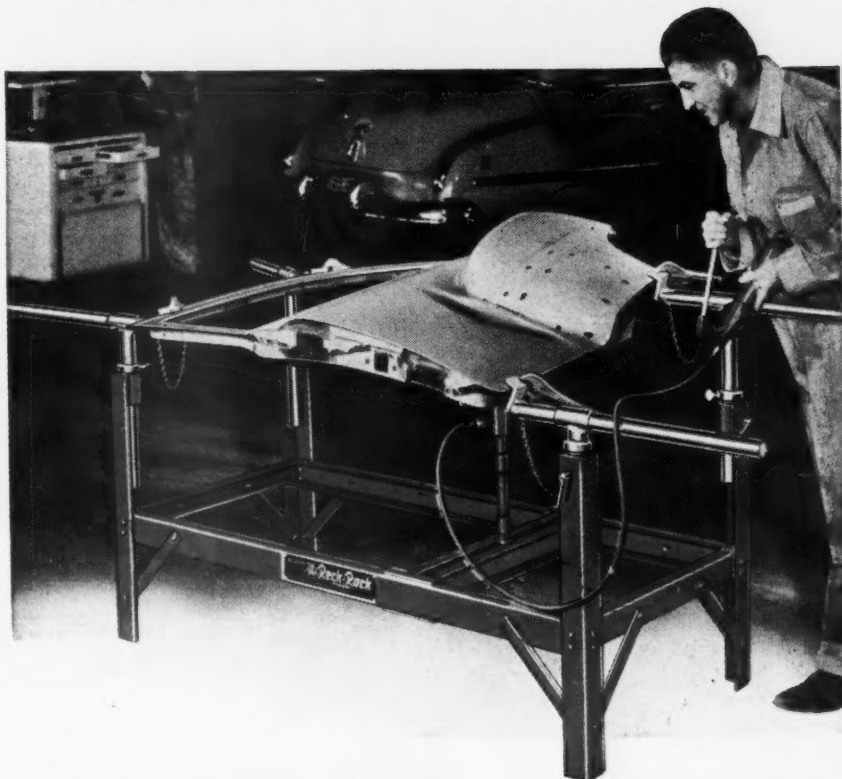
When Tommy got the head off, he realized immediately how badly the car had needed a carbon and valve job. He called to Larry and the two of them went at it, Larry disassembling the head and Tommy to clean the carbon off the pistons. Before they were through they cleaned the carbon, refaced the valves, reseated the head, ground the valves in carefully, checked the valve springs, guides and stems for

(Continued on page 90)

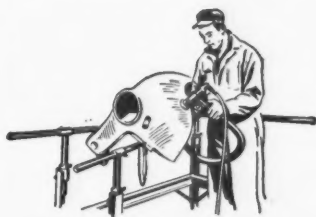
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BLACKHAWK

A product of BLACKHAWK MFG. CO., Dept. R-631, Milwaukee 1, Wis.

wear. But when the engine was reassembled, the little click on Number Four cylinder had been built right back in.

Larry listened for a minute. His teeth ground into the cold end of his cigar. "It ain't nothin' I did wrong," he blustered. "When you've got a man's job to do, never give it to a boy," he growled on to no

one in particular.

"All I did was scrape the carbon," Tommy put in mildly. "What's this? The Case of the Clickin' Carbon?"

"If you're insinuat' that I don't know my job . . ." Larry began belligerently.

And it looked as though a sizable rhubarb was about to develop. Pop's

voice cut off the end of Larry's train of thought however. "Hello, boys," he said. "Sounds like old times around here again. I thought you kids had smoked the pipe of peace."

"If we was smoking the pipe," Larry snorted. "That kid would find some way to plug up the stem."

"I wouldn't get near it 'til the free tobacco was gone," snapped Tommy.

Said Pop, "I hear a tappet clickin'." And bent over the engine. "Better set it tighter."

"It's perfect now," Larry remarked, completely forgetting the feud of a minute before. "Slip this gage in and see."

Pop took the feeler gage. The clearance was, as Larry had said, just right. Pop removed the gage and for a moment just listened to the click. Then he stuck the gage back in. The clicking stopped. He removed the gage and the clicking came right back. He closed the gage and returned it to Larry.

"That's the trouble all right," he said.

"What is?" Tommy was completely confused.

"Did you check the rocker arms for wear?"

Larry, suddenly busy lighting another cigar, merely shook his head.

"My guess is that you'll find the arms have a cup beaten into them and the feeler gage don't go up into the hollow. When you set the tappets just right the gage tells you everything is OK, but it can't measure the depth of that cup. When you leave the gage in between the

(Continued on page 94)

BOOST PROFITS WITH **KING** detachable testers!

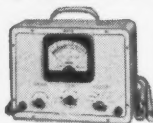


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The King Model MT-225 Engine Analyzer is a new addition to the King line. Individual testing units can be quickly removed for use on road service or other jobs.

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Designed by leading equipment engineers, King Testers feature large, easy-to-read, 5-inch, shockproof D'Arsonval type meters. Dials and controls are located for fast, accurate operation. Permanently attached leads eliminate electrical losses. Following Testers may also be purchased separately.



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windings to maximum operating temperature for testing all performance factors.



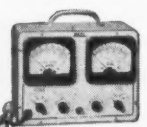
MODEL G-203 Condenser TESTER tests all battery, ignition and magneto condensers, either on or off the vehicle, against accepted standards.



MODEL G-204 V. A. R. TESTER measures all voltages and currents in all vehicle electrical systems. Self-contained resistors, for 6, 12 and 24-volt systems with selector switches, greatly simplify testing.



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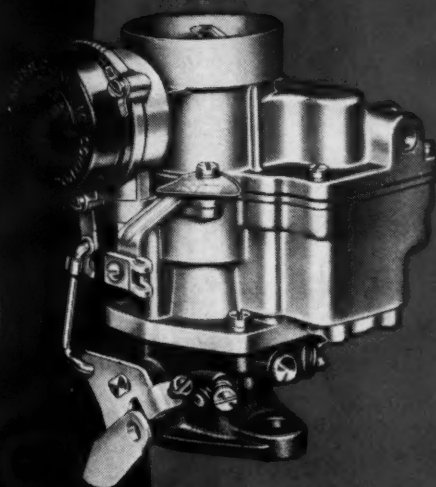
CARTER

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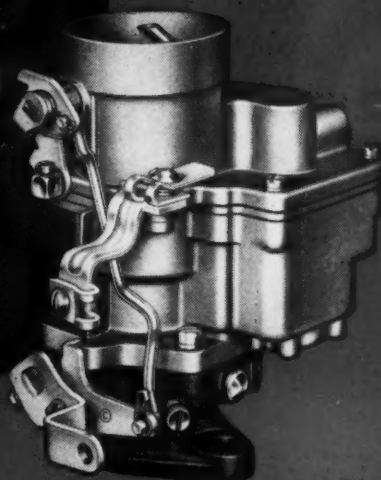
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B61-2



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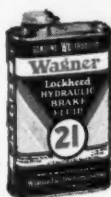
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rod and stem, that clickin' stops 'because the stem can't get up in the cup. But when you take the gage out then the stem keeps on goin' up a couple of thousands beyond the regular clearance. That makes the click."

"Just as though they were set a couple of thousands too loose," Tommy began to see the light.

"That's the idea," said Pop.
"What do we do?" asked Tommy.
"Put in new rocker arms?"

"No," said Pop. "Not unless these are really worn out. There's an attachment on the valve refacer to mount these arms for grindin' the ends."

"And on every overhead valve job," Larry put in with a wry grin,

his usual good humor back now that he knew what was wrong, "you should always check the rocker arms for wear."

"Right," said Pop. "That's one thing I like about you, Larry. Always ready to correct your mistakes. Like a sailor I knew once."

"Here it comes," said Larry out of the corner of his mouth to Tommy. "Another of them corny jokes. But laugh, he's the boss."

"Go ahead, Pop," Tommy grinned. "I'll listen anyway."

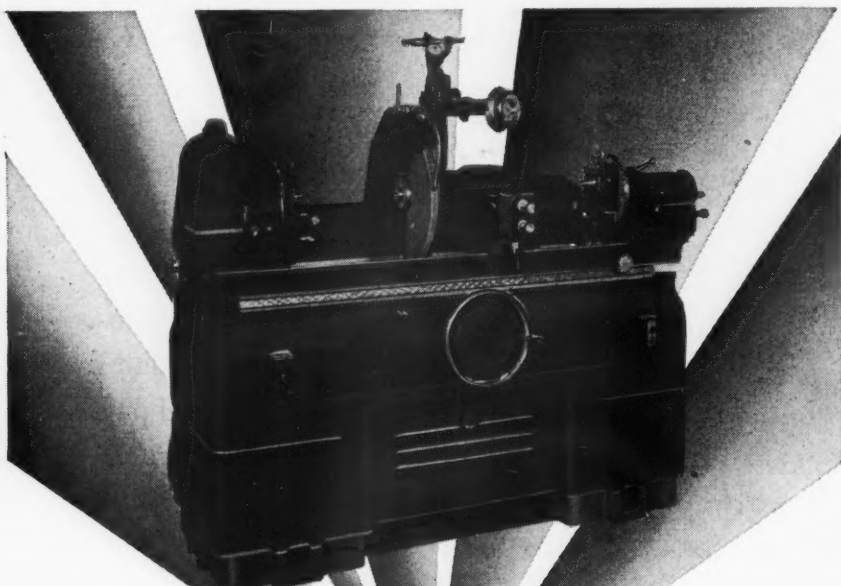
"Well," Pop began. "It was on a super ocean liner. Midnight. Suddenly a sailor on watch shouted 'Man overboard!' Searchlights flashed. Bells rang. Officers ran around. Men piled into lifeboats. And the big ship came to a stop."

"I'm sorry, sir," said the sailor to the captain. "I made a mistake."

"Lifeboats came back aboard. Bells stopped ringing. Searchlights snapped off. 'Full speed ahead!' the captain bellowed."

"Yeah," explained the sailor. "It wasn't a man. It was a woman."

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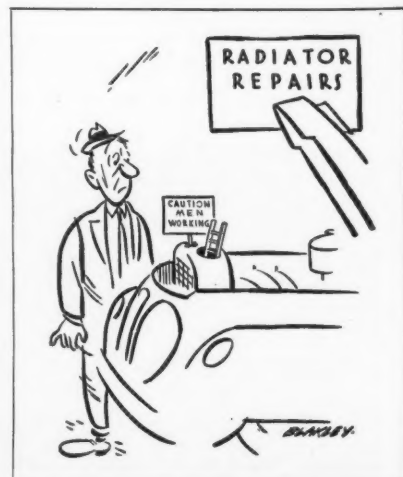
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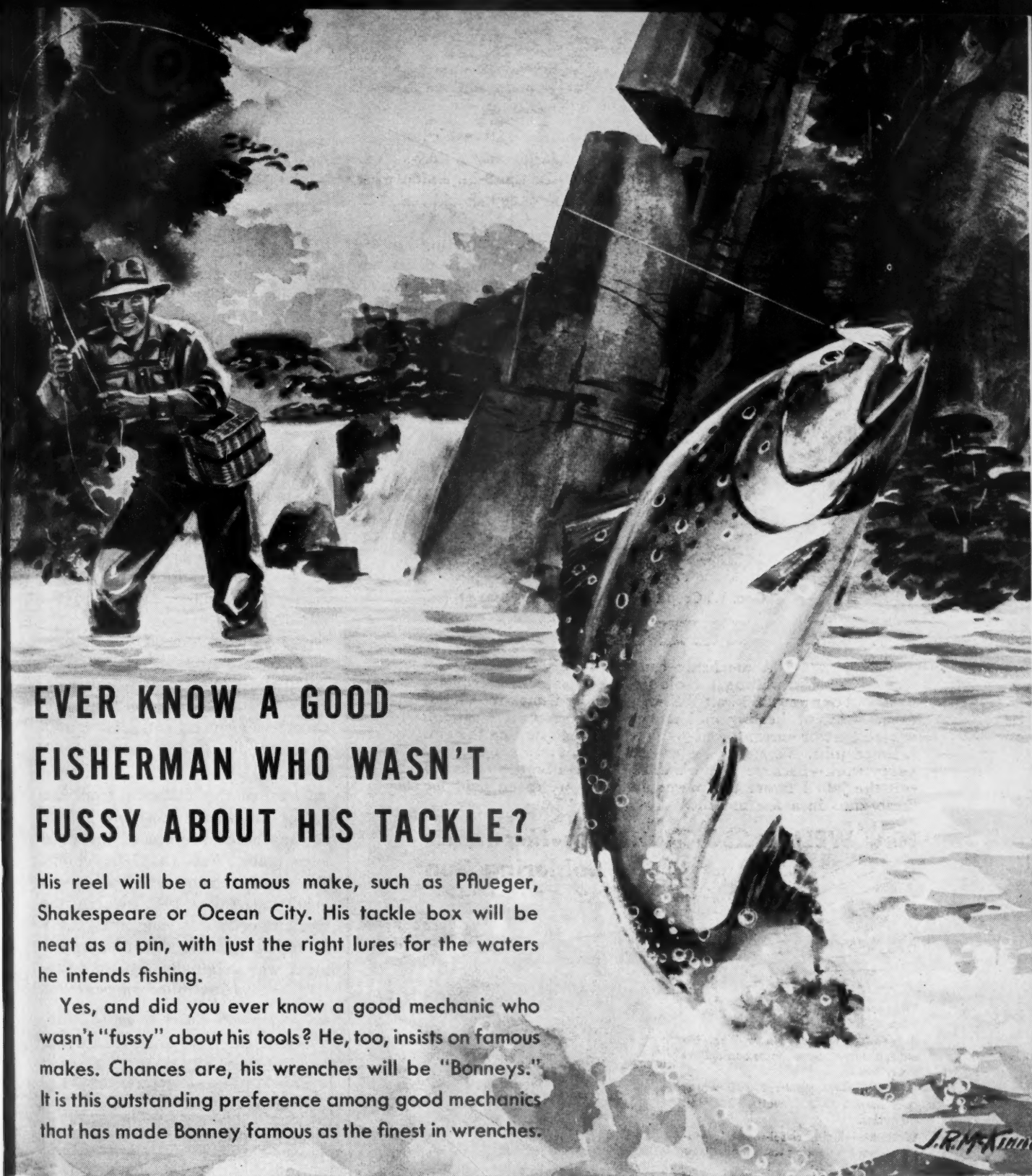
HIGH PRODUCTION AUTOMOTIVE ENGINE REBUILDING MACHINES



GM Acquires New 1000 Acre Testing Ground

General Motors has acquired an additional 1000 acres of land adjoining its present proving ground and will use the area for a test track for military vehicles. Construction of roads will start immediately and will be completed by July. The area contains a natural lake for deep fording and landing operations as well as for amphibious tests. About half the area is very rough terrain with the other half comparatively level. Two buildings will be constructed for tank repair and for storage of road maintenance equipment.





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BONNEY FORGE & TOOL WORKS, ALLENTOWN, PENNSYLVANIA

Clutch Overhaul . . . Continued from Page 49

all three release lever pin holes within one thousandth inch. If the micrometer shows the distance to be less than that specified, the pressure plate should be replaced.

Examine springs and replace any that are broken, and the tension of the rest should be checked. If it is a 10-in. plate and has blue springs in it, the spring pressure should be 125 to 135 lb with pressure exerted

to 1 9/16 in. If the springs are grey in an 11-in. clutch, they should be 120 lb. In the 9-in. clutch with brown springs they should read 147 to 153 lb.

Examine the adjusting screw slots for wear, and, if damaged, replace them. Replace the needle rollers having flat spots. Replace release levers that are bent or twisted and those that are dam-

aged. Replace all release lever pins and release lever yokes that are grooved due to wear. Replace all release lever rollers that have flat spots or are grooved. Replace insulating washers that are worn, cracked or damaged.

To reassemble, install an adjustment screw into each clutch release lever. Hold the release lever with the head of the adjusting screw facing downward and place a release lever roller in the hole nearest the screw. Hold the release lever yoke in place on the release lever and install the release lever yoke pin with the flat side of the pin facing toward the release lever roller. Install a cotter pin in the release lever yoke pin. Coat the remaining hole in the release lever with a thin film of high melting point grease. Prepare a dowel 5/16 in. in diameter and 5/16 in. long. Hold it in the hole and insert the 10 roller bearings around the dowel. Hold the release lever in place on the pressure plate in line with the release lever pin hole. Push the release lever through, thus forcing out the dowel. Install a cotter pin in the release lever pin.

Measure the distance from the top of the release lever pin hole to the machined surface of the pressure plate. For an 11-in. clutch, the measurement originally was 1.409 in. For a 10-in. clutch the measurement was originally 1.519 in. For a 9-in. clutch this measurement was originally .246 in. Sub-

(Continued on page 99)



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FILTERS

Buick Continued from Page 45

cowl. It is 80 in. wide, with an overall height of 53.4 in., and its ground clearance is 6.6 in.

The tires were especially designed for high-speed driving. The chassis frame is box type, designed for maximum rigidity. The rear end floats on coil springs, and the front end is suspended on torsion bars.

The experimental engine has a piston displacement of 215 cu in., which compares to 263 cu in. for an engine in a Buick Super model. It transmits its power to the rear wheels through a special Dynaflo unit at the rear of the car.

The body and the frame structure are welded into one solid unit, and when the doors are closed, hy-

draulically operated steel bars slide into place, like the bolts on the door of a vault, making the door part of the body and frame assembly. The exterior design is basically sport car. The hood slopes downward toward the front, giving it a racy profile with an excellent vision despite the low seat. The massive front bumper has a long opening in the center to permit cooling air to reach the radiator. Vertical grille bars, shaped to a concave surface so they are protected by the bumper, are set in the opening.

The XP-300 is equipped with two aircraft type carburetors. One feeds gasoline into the engine while the other feeds methyl alcohol in the proper proportions to prevent knocking during fast acceleration.

The rear deck has a long, sweeping taper which ends up in a circle similar to the rear end of the jet engine. This circle houses a sealed beam floodlight unit which serves as a back-up light. A tapered chrome molding, or fin, extends down the center of the deck. This fin conceals hinges which permit the luggage compartment to be opened from either side. An automatically extending radio antenna rises out of this molding near the rear. Two round "bombs" in the center of the rear bumper are actually exhaust outlets.

A novel arrangement permits the Riviera type back window to be lowered while the top remains in position. The top itself may be folded and removed completely.

Side louvres of the fenders, which run in a panel design from behind the front wheel past the rear wheel, are functional. The front portion, including some of the louvres on the front door, allow air to escape from the engine compartment. The rear louvres on the door permit air to escape from the driving compartment and can be opened or closed by the driver or passenger. There are no hood openings in the front of the car. The hood and the front fenders are welded into a single unit and open in reverse alligator style on hinges located just back of the front bumper. A hydraulic lift controlled from the instrument panel, raises and lowers the hood.

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CHAMPION LABORATORIES INC., Meriden, Conn., U. S. A.

CONTACT YOUR JOBBER TO-DAY

Clutch Overhaul

Continued from Page 96

tract the actual measurement from the original here given to determine the shims required under the insulating washer to compensate for the stock machine or the pressure plate.

If the difference between the original measurement and the actual measurement is less than .020 in., no shims are required. If it is more, shims of a thickness equal to the difference between the actual measurement and the specified measurement must be installed under each insulating washer. The plate should be so marked.

Install the shims, insulating washers and the springs. Lay a .0325-in. shim on each release lever yoke, making sure the punch marks on the plate and cover are aligned.

Place the cover over the pressure spring with the weighted ends of the levers protruding through the openings. Compress the cover and the plate assembly in a press and fasten the cover to the release lever yoke with three cap screws and lock washers. Select the correct spacing plate for the job on which you are working. The 11-in. clutches use a spacing plate. 356 in. thick. 10-in. clutches use a plate .295 in. thick. 9-in. clutches use a plate .350 in. thick.

The spacing plate may be made of any material that is flat and not compressible, such as hard plywood or steel. Apply pressure to the cover assembly and adjust the fingers to within .001 inch of the indicator.



Chilton's MOTOR AGE, MARCH, 1951



BOWES RADIATOR CHEMICALS for ALL Cooling Systems

Winter's end means getting rid of winter's accumulated dirt and rust in cooling systems. Here is your chance for quick, easy Spring profits . . . the three famous Bowes "Seal Fast" Cooling System Chemicals. It is a simple matter to sell the idea that radiators and cooling systems should be thoroughly flushed and put in condition for Spring and Summer driving—especially when you carry the Bowes line. Sell ALL THREE as a team . . . they work together to give your customers warm weather driving satisfaction. Stock up NOW and be ready for Spring profits!

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BOWES "SEAL FAST" CORPORATION
INDIANAPOLIS 7, INDIANA

PERSONALS

Harry J. Klingler, vice-president of General Motors and general manager of the Pontiac Motor Division, was recently named a director and a member of the Operations Policy Committee, and will become the group executive in charge of the passenger car and truck divisions. The new general manager of Pontiac will be

Arnold Lenz, executive assistant to Mr. Klingler since October, 1947. Mr. Lenz has been associated with General Motors for more than 30 years. Sherrod E. Skinner, vice-president of General Motors and general manager of the Oldsmobile division since Aug. 5, 1940, will become the group executive in charge of the

General Motors accessories divisions. Mr. Skinner's successor as general manager of Oldsmobile will be Jack F. Wolfram, chief engineer of Oldsmobile since June, 1944.

Benjamin P. Caldwell, Jr., for the past six years director of new business solicitation for the N. W. Ayer & Son, Inc., Chicago, has joined Van Auken, Ragland & Stevens, Chicago, as account and new business executive.

J. Allan MacDonnell has been appointed assistant general sales manager of the Gilbert & Barker Mfg. Company of West Springfield, Mass. In his new post Mr. MacDonnell will assist Irving Jacobs, vice-president and general sales manager, in administering the activities of the four sales divisions of the West Springfield concern.

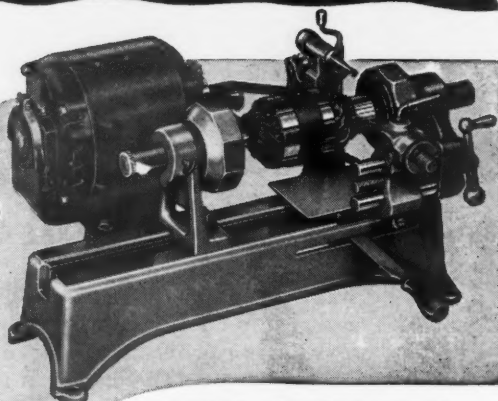
George A. Orphal has been named Western Sales Director of the Dodge Division, Chrysler Corp., to head up the new sales office which will coordinate activities of the Los Angeles, San Francisco and Portland regional offices.

James T. Birch, Vice-President in charge of sales of the Crescent Company, died recently in Pawtucket, Rhode Island. He was active for many years in the automotive industry.

(Continued on page 102)

THIS TRUCUT PACKAGE REALLY PUTS YOU IN BUSINESS!

GET EXTRA PROFITS
from
Starter-Generator
Work!



TRUCUT ARMATURE LATHE
AND UNDERCUTTER

There's plenty of extra profit in starter-generator work . . . if your shop is equipped to handle it!

And you can handle it with these three TRUCUT tools . . . all tried and tested . . . all designed especially for automotive repair jobs! With them, you can machine and undercut commutators perfectly; test for shorts, open circuits, and grounds; make quick, easy work of dismantling and assembling generators. The TRUCUT Press is also useful on dozens of other jobs around your shop.

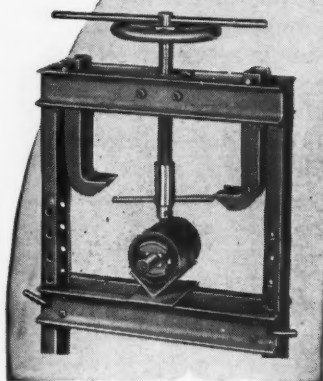
This TRUCUT package actually pays for itself in an amazingly short time. Enables you to handle work you are now sending out . . . or helps you to do it more quickly and profitably! Write for free details today.

FRANK N. WOOD CO.

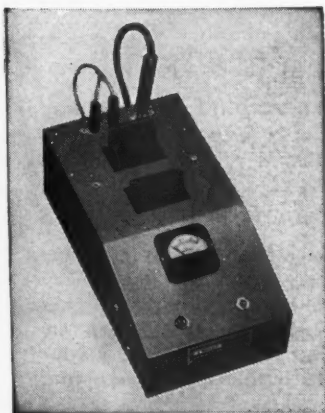
... SINCE 1933

TRUCUT

344 W. Main Street • Waukesha, Wisconsin
Pacific Coast Address
1330 W. Olympic Blvd., Los Angeles 15, Calif.



TRUCUT SHOP PRESS



TRUCUT ARMATURE TESTER

GARAGE



"Will you see if I've broken a connecting rod? My handle turns, but the window won't roll up!"



The Line Mechanics Like!

Mechanics like the Federal-Mogul line because they get the bearings they want . . . when they want them. They know, too, that the red and black Federal-Mogul box assures quality—in materials and accuracy!

It's the complete line—more than 7,000 items: Engine Bearings (Main, Connecting Rod and Camshaft)—Bushings—Connecting Rod Exchange—Reconditioned Connecting Rods—Rebabbitted Connecting Rods—Connecting Rod Bolts and Nuts—V-Seam Piston Pin Bushings—Bearing Metals—Laminated Shims

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

Detroit 13, Michigan

*Ask your
Federal-Mogul Jobber!*



Personals

Continued from Page 100

John Raymond Tapp, President of Sun Electric Corporation, Chicago, Ill., died recently at the age of 47. His untimely death was the result of a horseback riding accident.

Samuel E. Samuels, past President of the Boosters Club of New York, has passed away at the age of 65.

Arthur Davidson, Secretary and General Sales Manager of the Harley-Davidson Motor Co., Milwaukee, Wis., was killed recently in an automobile accident. Last of the founders of the firm, he was 69 years old.

B. W. Lang has been promoted from purchasing agent to vice-president of the AP Parts Corp., Toledo, Ohio; **H. E. Bremforder** from assistant treasurer to treasurer, and **A. J. Sawicki** from

traffic manager to plant superintendent.

Lee A. Ramsey, executive Vice-President of the Ramsey Corp., St. Louis, Mo., died recently after having been away from the firm for the past year due to ill health. He had been active in the development and management of the Ramsey Corporation since its formation over 26 years ago.

James M. Baker has been appointed Vice President in charge of Manufacturing of the Weatherhead Company. Mr. Baker comes to this firm from Motor Products Corp. of Detroit, where he was factory manager.

J. Howard Reed, MEWA's Management and Legislative Counsel, has been admitted to practice before the United States Supreme Court.

S. D. Braden has been named Packard Motor Car Company's Chicago zone manager. Other appointments include **M. C. Berner** as St. Louis distributor zone office manager, **Marshall Beck** as Washington Zone manager, **George T. Whitmarsh** as Chicago assistant zone manager and **B. B. Mitchell** as Washington assistant zone manager.

David H. Harris has been announced as Assistant Advertising and Sales Promotion Manager of Burndy Engineering Co., Inc., New York, N. Y.

(Continued on page 106)



**He Carries
A COMPLETE
FUEL PUMP STOCK
Under One Arm**

The "Salesman's Favorite Armful" hits the market at just the right time when maximum sales and minimum inventory are both essential.

The Autopulse Counter Display Kit (3-in-1) is a smashing sales hit because it is the only way the serviceman can surely give fuel pump service on ANY CAR that comes into his station at any time . . . Carry fast-selling cam pumps—then fill out with Autopulse.

KIT WOULD LOOK
LIKE THIS ON
YOUR COUNTER.

5295

Write for description and prices to Autopulse Corporation.

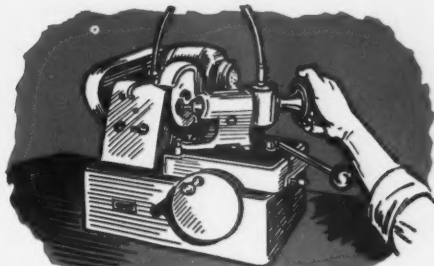
AUTOPULSE Corporation
LUDINGTON, MICHIGAN



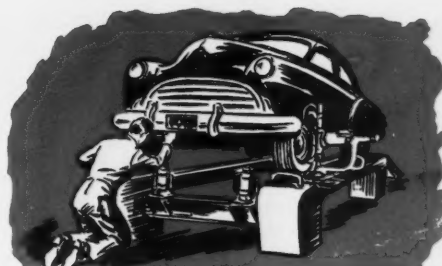
What equipment do you need?



A hydraulic lift?



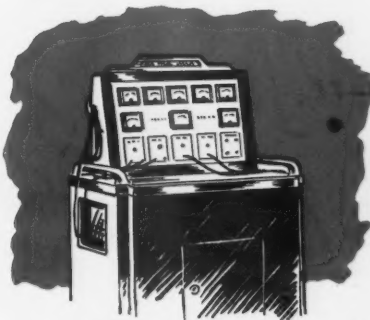
A valve refacer?



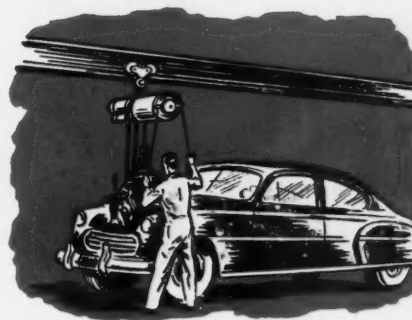
A wheel aligner?



Welding equipment?



A motor analyzer?



An electric hoist?

BUY your profit-making new shop equipment NOW...PAY for it LATER with Commercial Credit's...

A E P
AUTOMOTIVE EQUIPMENT PLAN

IF YOU WANT to make the most of increasing repair business, you've got to have the modern labor-saving equipment that helps you turn work out *better, faster, cheaper!* That's why COMMERCIAL CREDIT'S Automotive Equipment Plan is good for you. You can get the cost-cutting equipment you need NOW . . . while it's still available . . . and let

it pay for itself out of the extra profits it makes for you!

All you need is a reasonable down payment. COMMERCIAL CREDIT pays the rest and you repay us in easy monthly instalments. Your jobber has full details on how you can get the shop equipment you need without laying a lot of cash on the line. Ask him today about COMMERCIAL CREDIT'S A.E.P.!

The best equipped shop gets the profitable business!

BUY IT ON TIME!
ASK YOUR
JOBBER ABOUT **A E P**
ONE CONTRACT • ONE COST • INSURANCE INCLUDED

COMMERCIAL CREDIT CORPORATION

A subsidiary of Commercial Credit Company, Baltimore . . . Capital and Surplus over \$100,000,000 . . . more than 300 offices in principal cities of the United States and Canada

**IT'S IN
THE BAG!**

**Durkee-Atwood
Factory Fresh**

V-Belts make V-belt history with this sensational new outer-wrapped sealed-plastic package (patent applied for) that gives double protection against sunlight, air, moisture, dirt, and grease. Only Durkee-Atwood has it—the V-Belt with sealed-in mileage!

Durkee-Atwood V-Belts are guaranteed to be *New* and *Factory Fresh* when you open the package! Your customers can see and feel the newness—can smell the clean aroma of fresh rubber!



SENSATIONAL

**FACTORY
FRESH**

V-BELTS

IN

DURKEE-ATWOOD'S

EXCLUSIVE

SEALED

PACKAGE

Copyright 1951, Durkee-Atwood Co.

DURKEE-ATWOOD *Factory Fresh* V-BELTS

NEWS!

Factory Fresh

WHEN
YOU BUY 'EM!

Your Best Deal for V-Belts!

BIGGER PROFITS PER SALE—your cost is lower for top profit on every belt installation. No matter what brand you have handled in the past, increase your V-Belt profits now with the D-A *Factory Fresh* Program!

QUICK SELECTION—correct replacement numbers and list of cars serviced are printed on every package, as well as the inside circumference, outside circumference, and top width of the belt.

SENSATIONAL CUSTOMER ACCEPTANCE—your customer knows when you break the seal on a Durkee-Atwood sealed-plastic package that you are giving him a belt that is factory guaranteed to be New and *Factory Fresh*.



FACTORY FRESH

WHEN
YOU SELL 'EM!

SPARKLING DISPLAYS OF V-BELTS—brightly-colored, eye-catching packages give you uniform, better-looking stocks—kept clean with the swish of a cloth!

FASTER SERVICE ON REORDERS—you and your jobber both benefit from the service rendered by strategically-located warehouse stocks.

HIT THE JACKPOT WITH THE *Factory Fresh* DISPLAY PANEL

This striking, streamlined display panel cashes in on the "billboard" advertising design of the *Factory Fresh* package—is a customer-stopper that sells more belts for you!

MAIL
COUPON
TODAY
FOR FULL
DETAILS

**DURKEE-ATWOOD
COMPANY**

MINNEAPOLIS 13, MINNESOTA

Manufacturers of V-Belts, Rubber
and Chemical Products Since 1910

Durkee-Atwood Co., Dept. MA3
Minneapolis 13, Minn.

Gentlemen: Please send FREE catalog on *Factory Fresh* V-Belts and name and address of your jobber in my area.

Name _____

Firm _____

Address _____

City _____ State _____

Personals

Continued from Page 102

W. R. Persons has been elected Vice President In-Charge-of-Sales of Lincoln Electric Company, Cleveland, Ohio.

Chet D. Hirsch has been appointed Educational Director for the Bendix Automotive Service Sales Organization. He will be responsible for the development of

service and sales training programs, training aids and the coordination of all educational programs.

Harold G. Ingersoll has been elected Vice President of Borg-Warner Corp. In addition to his new office, Mr. Ingersoll will retain the Presidency of the corporation's Ingersoll Steel Division at New Castle, Indiana. He is also a member of the Borg-Warner Board of Directors.

James B. Lightburn has been named assistant to the Vice-President in charge of sales of Puro-lator Products, Inc., Rahway, N. J. Succeeding Mr. Lightburn as sales manager of the National Accounts Division is William K. Abeles.

L. G. Porter was elected as Treasurer of Borg-Warner Corp., according to a recent announcement by that company. He had been Vice President and Secretary of the Calumet Steel and the Franklin Steel divisions of Borg-Warner since 1947.

Andrew J. Eldred, President of Autopulse Corporation, died recently at the age of 57. He is succeeded by R. M. Eldred, who has been elected President and Treasurer of the company.

Nash Motors . . .

L. E. Stewart has been named assistant sales promotion manager of Nash Motors. Also announced were J. F. Cox as Boston zone manager, R. J. Goodyear as Memphis zone manager, O. G. Watson as Cleveland zone manager, Paul McKeown as Chicago assistant zone manager and G. B. Stone as Kansas City assistant zone manager.

Buick

Harry L. Brodbeck has been named as director of car distribution for Buick, Albert H. Belfie, general sales manager, announced recently.

This powerful FUEL PUMP SALESMAN

Yours for the asking. Get it from your jobber!

Display this colorful, 17" x 22" Fuel Pump wall poster in your shop. Tells the fuel system story. SELLS fuel pumps and service!



"Oh! my Daddy made it for me after he parked his car—there's a fire plug under the snowman!"

Keep 'em rolling with . . .

MOPAR

TRADE-MARK

COOLING SYSTEM CONDITIONERS

For PLYMOUTH, DODGE, DESOTO and CHRYSLER
CARS and DODGE "Job-Rated" TRUCKS



MoPAR Fan Belt with extra strength

Exceptionally strong and flexible. Made of specially cured rubber and high tensile strength cord.



MoPAR Radiator Hose that lasts and lasts

Neoprene lining and 3-ply fabric assure extra-long life and utmost flexibility.



MoPAR Stop Leak

Seals small leaks and cracks in the cooling system *safely, effectively and economically.*



MoPAR Cooling System Cleaner

Rust, water scale, and other foreign elements are *dissolved* . . . to restore the cooling system to "new car" efficiency!



MoPAR Radiator Rust Resistor

Protects water jackets, radiator core walls, tanks and water pump parts—gives positive protection against rust.

FACTORY
ENGINEERED



FACTORY
INSPECTED



SUPPLIED
BY CHRYSLER MOTORS
PARTS CORPORATION



You can get MOPAR parts from dealers for
PLYMOUTH · DODGE · DE SOTO · CHRYSLER
CARS · DODGE "Job-Rated" TRUCKS
... and from many general service and repair shops.

CHRYSLER MOTORS PARTS CORPORATION, DETROIT, MICH.

Dealer's Clinic Continued from Page 39

confusing and would result in letting the entire rental setup in your dealership get out of hand.

A firm or individual who wishes to have a new car each year, who drives more than 15,000 miles a year, and who is willing to accept a depreciation of 25 per cent on his car, is an excellent prospect for car leasing. Your efforts should be

concentrated on this group.

Another group that may be regarded as good rental prospects are younger men just getting started in business. For example, a young man just out of college is accepted for a position by a firm with the requirement that he must have an automobile. Without capital and needing a car, what is he to do?

To this group, leasing is the perfect solution. Not only is the problem solved, but you have done much to cement good relations with this group of young people who will be your customers in the future.

Unless you plan to enter the leasing business on a national scale, your leasing operations can be handled through your existing setup, treating it much as you would your parts department or your used car department. However, if the average dealer plans on leasing a large number of automobiles to fleet users, organization of a separate company would be necessary.

For those dealers who are interested in getting into the leasing business, it would seem to me that the best way would be to set up a separate department in your dealership to get the feel of leasing operations. Then, if it seems advisable to do so, the entire department may be transferred to a separate company. No matter what your inclination may be, however, I would advise that you examine every phase of the leasing business before making any binding decision.

The disposal problem is next. Large national fleet rental companies dispose of their cars mostly at wholesale in the field. However, there is no reason why cars cannot be returned to your headquarters city where a used car outlet can be maintained or where you have good wholesale connections.

Before closing, I would like to dwell for a moment on the oft voiced complaint that the car leasing business will wreck the retail automobile business. To me, this is extremely unlikely. Retail sales will still account for the major percentage of your business with leasing units giving you plus business when there are cars to sell.

If we, as automobile dealers, exercise a sense of responsibility and restrict our rental operations to those people who are sound rental prospects, we will be helping the industry and the retail business and will be doing ourselves a service by building better customer and public relations.

Since your decision to go into the rental business has probably been made already, all I can say is, "Good Luck."



- It's a Complete Oil Filter Line Department in 17" of Selling Space
- Boosts Filter Line Sales
- Lines are Individually Boxed to Keep Fresh and Clean

Enables you to handle practically any oil filter line job—including AC, Fram, Purolator, Walker, Briggs and Wix. A real time and money saver.

3-Color metal merchandiser can be hung on wall or placed on the counter. Furnished complete with 11 broad cov-

erage lines (ranging in length from 10" to 28") and 6 adapter fittings.

Fully labeled to identify lines and adapters, to indicate where used and to show retail price of each item.

No. U-100-FT Imperial Oil Filter Line Merchandiser. Dealer's Cost.....\$14.30

INCLUDES ADAPTERS WHICH GREATLY EXTEND COVERAGE



No. 1-FF



No. 2-FF



No. 6-FF

While lines without adapters fit a large proportion of applications, the adapters furnished enable every line in this stock to do 4-way duty in providing coverage for practically any job.

Ask for Bulletin No. 396

THE IMPERIAL BRASS MFG. CO., 1217 W. Harrison St., Chicago 7, Ill.

In Canada: The Imperial Brass Mfg. Co., 33 Church St., Toronto, Ontario

IMPERIAL

Brass Fittings • Flexible Fuel Lines
Tube Working Tools • Shut-Off Valves
Barrel Faucets • Service Aids

DEVILBISS



You'll benefit and profit, too!

DeVilbiss engineers have spent years working with vehicle manufacturers to get better, more lasting finishes. The vast majority of manufacturers today use DeVilbiss equipment. We'll gladly pass along to you helpful data on duplicating factory quality in your shop.



YOU CAN TELL BY THE EXPRESSION ON HIS FACE!

Look at the beautiful refinish job on the panel truck you see pictured above.

Then, look at the man on the right. Pleased with the job? You bet he is . . . you can tell by the expression on his face.

Reactions like this are typical where owners have installed a complete DeVilbiss Paint Shop in their place of business.

Shown above is one of many types of DeVilbiss Spray Booths. It's de-

signed expressly for refinishing passenger cars, school buses and many other types of commercial vehicles. It handles up to 8 refinish jobs per day. Used with DeVilbiss Spray Guns, Paint Tanks, Air Compressor and Hose, it represents one of the most profitable investments you can make. Records prove it.

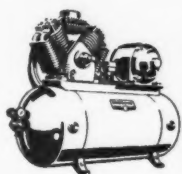
DeVilbiss is proved spray painting equipment used the world over by major motorcar, truck and bus manufacturers as well as leading refinishing shops.

Your nearest DeVilbiss Branch Office or Jobber has complete data and prices. Why not call him today? You'll like the helpful service, and you'll like the results you get with DeVilbiss equipment.

THE DEVILBISS COMPANY Toledo, Ohio

Windsor, Ontario • London, England
Santa Clara, Calif.

Branch Offices in Principal Cities



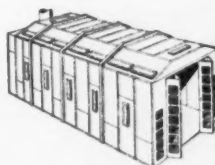
Air Compressors



Hose and Connections



Spray Guns



Spray Booths

FOR BETTER SERVICE, BUY

DEVILBISS



Chrysler Continued from Page 56

In the first place, the steering column is split into two sections to permit angularity of movement in the section of the column within the gear box. This movement is controlled by means of the spherical bearing at the top end of the gear box housing and is given full freedom of action by virtue of the rubber-insulated coupling im-

mediately above the gear box.

This design permits the steering column to be offset with respect to the worm shaft as shown. The connection between the shaft terminals is by means of two spur gears, the faces of the gears being deeply crowned (0.003 in.)—by crown shaving—to permit full mating contact despite the angu-

larity of the shafts. Displacement of the gear on the steering column in one direction or the other provides the mechanism for operating the hydraulic circuit.

It is of interest that flexibility of design makes it possible to use special crown-faced bevel gears whenever the arrangement of the vehicle makes it necessary to provide greater angularity of the steering column.

Just below the spherical bearing is the valve operating block which makes contact with the "reaction" valves at the bottom and the "distribution" valves at the top of the block. Displacement of the steering column gear in one direction or the other moves the valve block correspondingly, only a slight displacement being necessary to place the valves in operation.

To the right of the worm and gear is the pair of hydraulic cylinders which do the actual work of moving the pitman arm by contact with the intermediate lever.

The oil pump, a small but powerful unit by virtue of its high operating speed, is mounted remotely as shown. On Chrysler V-8 engines it is mounted directly over the center of the engine and driven from the rear end of the generator shaft by means of an oldham coupling connection. The oil pump is fitted with Eaton Rotor gearing. Another feature of the pump is the provision of an oil filter mounted over the pump housing.

(Continued on page 114)



We learned how to make a straight bolt ...and we DO IT!

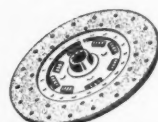
TAKE two king bolts of another make out of your stock; lay one on top of the other; hold them up to the window. See the daylight between them? You may find a gap up to .015 inch.

Try the same test with two Monmouth King Bolts—no daylight visible.

Why? Because they are straight. We finish grind after heat treating. It costs

much more in time and tools but it is the only way to make a straight bolt. So we do it that way. Another example of the engineered and precision construction of Monmouth Replacement Parts which makes them preferred by master automotive mechanics.

N. A. P. A. distribution coast to coast gives you Minute-Man delivery on wanted Monmouth Parts.



Clutch Plates and Parts



Knuckle Support Pin



Bearings

All Monmouth Replacement Parts are engineered and precision made to safeguard the reputation of the master automotive mechanics and to insure user safety and satisfaction.



**THE CLEVELAND
GRAPHITE BRONZE CO.**

REPLACEMENT SALES DIVISION
6345 Carnegie Ave. • Cleveland 3, Ohio



"Gyro-matic; hydra-matic; super-matic; ultra-matic — they're all alike to Hugo. He don't know anything about any of them!"

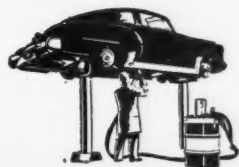
50% MORE PROFIT

WITH CONCENTRATED

LION *Nōkōrōde*

UNDERCAR SEALER AND SILENCER

150
Perfect
undercoating jobs
at the cost of
100



IT'S SIMPLE ARITHMETIC!

Most ordinary undercoatings contain a large percentage of solvent. You spray these undercoatings to a $\frac{1}{8}$ " thickness—but when the solvent dries out, you're left with about $\frac{1}{16}$ " thickness.

Lion Nokorode Under-Car Sealer and Silencer is *concentrated*. You spray Nokorode to $\frac{1}{16}$ " thickness—and it dries to almost $\frac{1}{16}$ " thickness. There's no wasteful excess solvent.

Result: You can do half again as many cars with *the same amount* of Lion Nokorode as you'd do with ordinary undercoatings. Yet Nokorode costs no more. Drum for drum, *you make 50% more profit with Nokorode!* Nokorode is *uniform*, for smooth application. It's *homogenized*—won't clog guns. And it's *guaranteed* to give complete customer satisfaction. Start making money with Nokorode—send the coupon below *now!*

Made Under The Process Of U. S. Patent No. 2,393,774

WE HELP YOU SELL *Nōkōrōde*

WITH POWERFUL ADS IN THE

SATURDAY
EVENING

POST AND TIME

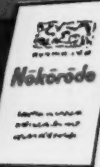


Made and
Guaranteed by

LION OIL COMPANY EL DORADO, ARKANSAS

FREE!

How To Make
More Money From
Undercoating!



LION OIL COMPANY, El Dorado, Arkansas

Please send me complete details on how I can increase my undercoating profits with Lion Nokorode Under-Car Sealer and Silencer.

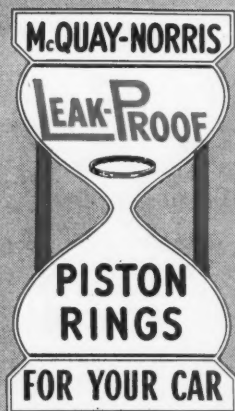
Name

Street or Route

City State

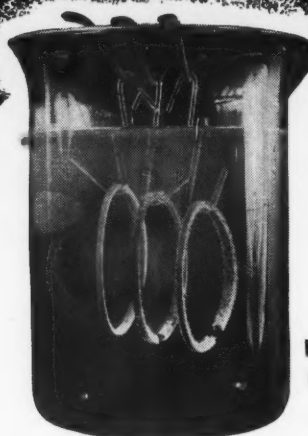
Brand of undercoating I am now using, if any

1st



ALTINIZING THE FINEST OF ALL PISTON RING COATINGS!

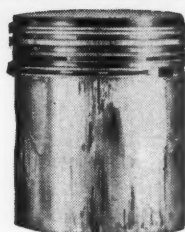
ACID TESTS PROVE IT!



UNRETOUCHED
PHOTOGRAPH

FRICTION causes motor wear . . . but so does **ACID ACTION!** Acids duplicating those formed in a motor are shown in the glass container. Note the acid attacking the two ordinary rings at the right causes bubbles to rise. In motor operation that means wear. Now note no bubbles rise from the ring at the left because it is **ALTINIZED!** That means less wear.

LEAK-PROOF RINGS ARE SCUFF PROOF RINGS



PISTON FITTED
WITH ORDINARY RINGS

This picture shows scuffing and wear during break-in period. Rings have never been seated and worn surface prevents proper seating action. Thus effective Ring operation is impaired.

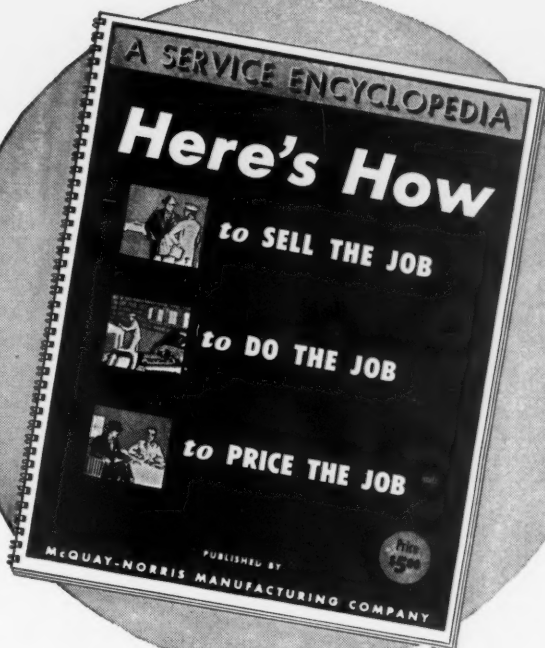


PISTON FITTED
WITH ALTINIZED RINGS

1. Rings and piston show slightest possible scuffing and wear during break-in period.
2. Rings seating properly.
3. Positive sealing action of rings due to fine bearing surface—Altinized finish.
4. Successful ring operation due to lack of scuffing and premature wear; proper seating of rings, and positive sealing action.

McQUAY-NORRIS MANUFACTURING CO.

Yours for the Asking



THIS COMPLETE SERVICE ENCYCLOPEDIA

This SERVICE ENCYCLOPEDIA comes with a heavy cover, and is wire bound for long use... It tells you HOW to SELL the JOB through pages that show the customer just what you do... It tells you HOW to DO the JOB by means of pictures on TUNE-UP jobs, RING jobs, OVERHAUL jobs and many others... It tells you HOW to PRICE the JOB with rate charts, work time, etc. Here is a book full of information every service department needs... and...

It's Yours for the Asking **Here's How TO GET THE SERVICE ENCYCLOPEDIA**

Simply place an order for *four* sets of LEAK-PROOF Piston Rings. You select the sets you want. You will be billed for the sets at your regular price by the McQuay-Norris jobber from whom you buy. HE WILL SEND THE SERVICE ENCYCLOPEDIA AT NO EXTRA CHARGE. The most liberal offer we have ever made.



McQUAY-NORRIS MFG. CO. St. Louis 10, Mo.

Please send full details on "HERE'S HOW" to:

Name _____

Address _____

City _____ Zone _____ State _____

LEAK-PROOF PISTON RINGS

Built in as a part of the pump assembly are two important valves: a high pressure relief valve to bypass the fluid in the event of an abnormal build up of pressure; and a flow control valve of spring-pressure type to restrict the volume of oil delivered to the gear box. The actual amount of flow is of about the same volume as developed at

engine idling speed. The excess, at higher speeds, is then caused to by-pass to the pump.

The present passenger car gear is designed for a maximum pressure of around 1000 psi, although actual operating pressure is held between 600-700 psi.

It may be mentioned at this point that from the standpoint of safety,

the Hydraguide unit can be controlled manually in the event of hydraulic system failure or an in-operative engine. It is claimed that nothing in the hydraulic circuit can possibly prevent operation in the event of failure. Naturally under these conditions steering will require considerably more effort.

The alignment of the steering column is secured at assembly by means of a roller which holds the gears in mesh. The roller is mounted on an eccentric shaft, permitting suitable adjustment by moving and locking an externally mounted lever. The same lever is used for service operations to take up play.

One pair of valves forms the reaction valves which serve to proportion power; while the other pair constitutes the distribution valves, designed to direct fluid flow to the cylinders, then through the reaction valves.

New Mexico Dealers

H. L. Galles of Albuquerque was re-elected president of the New Mexico Automobile Dealers Association at the close of their annual convention in Carlsbad. Also re-elected was Dean Wait of Carlsbad as vice-president and John W. Hall, Jr., of Roswell, as secretary-treasurer.

New directors are I. J. Hilton of Las Vegas, A. E. Thomas of Albuquerque, Leo J. Valdez of Las Cruces, Reese Cagle of Clovis, E. R. Wood of Santa Fe, Joseph DuBois of Santa Fe, Orville Pickett of Hot Springs, H. Lackey of Raton, E. S. Walkey of Silver City, Reese Cagle of Clovis and Galles, Wait and Hall.

AIRCO small cylinders . . . for 25 years leasing at about \$2.00 per year



Here is the ideal cylinder team to meet every day welding and cutting operations — a 122 ft. oxygen cylinder teamed with a 60 ft. acetylene cylinder. This combination gives you



these 4 big advantages

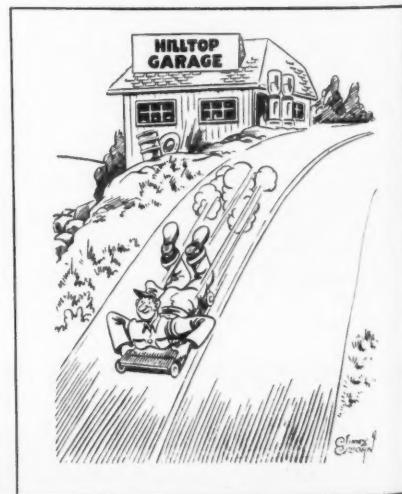
1. **Better Gas Ratio** — meets the common demand for 2 to 1 oxygen-acetylene ratio.
 2. **Easier Handling** — small, lightweight, easy to move around the shop, or on your truck for field welding jobs.
 3. **Greater Economy** — demurrage savings amount to \$5.20 or more per year . . . ordinary wear and tear repairs, and retests are made at no charge.
 4. **Always Available** — when cylinders are empty, you get new ones immediately . . . no waiting for cylinders to be filled.
- Moreover, if you move, one of Airco's nation-wide network of dealers and plants will always be near for service.

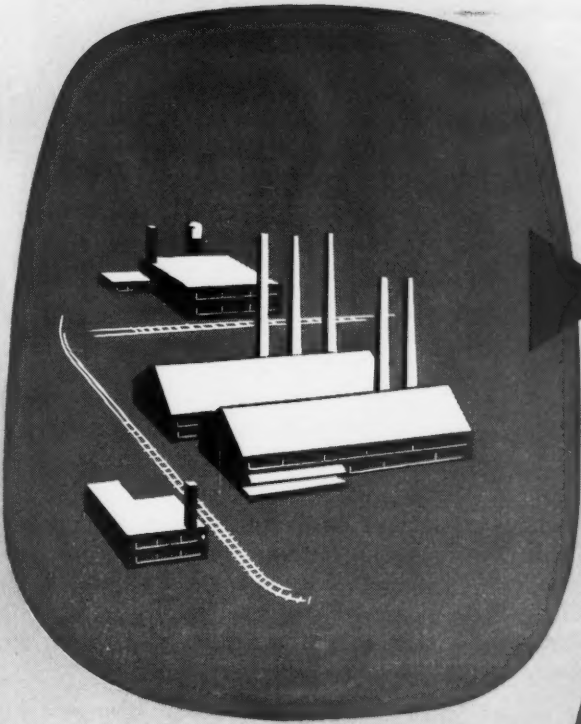
Ask your local authorized Airco Dealer about the 25-year lease plan on these small gas cylinders.



AIR REDUCTION

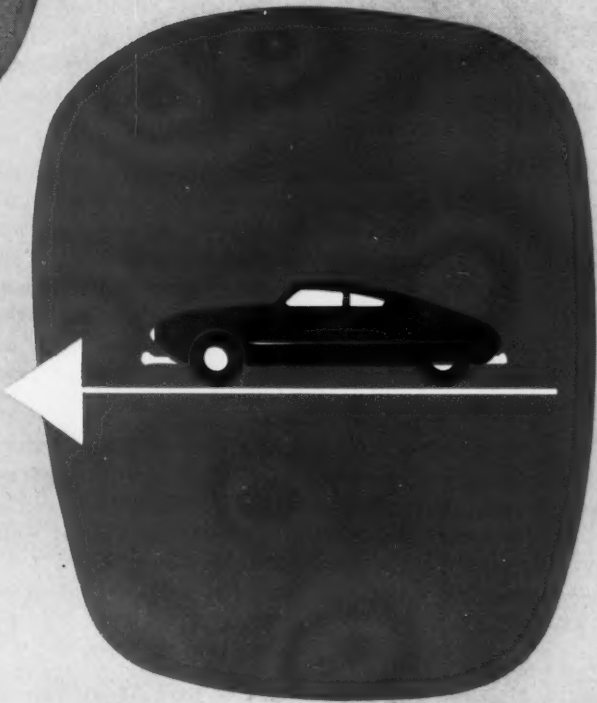
AIR REDUCTION SALES COMPANY • AIR REDUCTION MAGNOLIA COMPANY
AIR REDUCTION PACIFIC COMPANY
REPRESENTED INTERNATIONALLY BY AIRCO COMPANY INTERNATIONAL
Divisions of Air Reduction Company, Incorporated
Offices in Principal Cities





**19 of the 24 BORG-WARNER DIVISIONS
PRODUCE for the
AUTOMOTIVE INDUSTRY**

**19 of the 20 makes of
PASSENGER CARS are equipped
with one or more
BORG-WARNER PRODUCTS**



*Engineering makes it work
Production makes it available*



THESE UNITS FORM BORG-WARNER, *Executive Offices, Chicago:* BORG & BECK
BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS • CALUMET STEEL • DETROIT GEAR
DETROIT VAPOR STOVE • FRANKLIN STEEL • INGERSOLL PRODUCTS • INGERSOLL STEEL
LONG MANUFACTURING • LONG MANUFACTURING CO., LTD. • MARBON • MARVEL-SCHIEBLER PRODUCTS
MECHANICS UNIVERSAL JOINT • MORSE CHAIN • MORSE CHAIN CO., LTD. • NORGE • NORGE-HEAT
PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS
WARNER GEAR • WARNER GEAR CO., LTD.

HOW YOU BENEFIT FROM WHAT YOUR CUSTOMERS FIND IN THE PAGES OF THIS MAGAZINE



Do you sell spark plugs, fan belts, batteries, oil filters and cartridges, mufflers, tires, brake lining, cooling system chemicals,

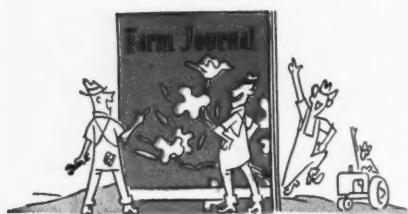
piston rings and motor parts, shock absorbers, oil and gas, accessories?

Whatever you sell, the "Keep 'Em Rolling" editorial which appears in the April issue of Farm Journal—out March 17—is going to get business for you. This is the third of a series of articles designed to promote better maintenance of motorized equipment on the farm. Farm Journal is doing this job at the best time of year for farmers—and at the best time of year for you.

And Farm Journal is a powerful persuader. It's the largest selling of *all* magazines, bar none, where more than half the families of America live—your *best* customers live, the people who

own the most cars, who buy the most trucks, who own all the farm equipment and tractors.

Let's put it another way. Look out your front window. There goes John Jones. Besides the car he's driving, he owns a



pickup truck and tractor. There are hundreds of John Joneses living right around you. Among the Joneses—your top service customers, the people of rural America—Farm Journal is the largest and most influential magazine in the country.

From our end, we are going to hit this big market hard. You can hit it just as hard from your end. Together we will do the job you want done.



Here's how you can participate and get maximum advantage from this hard-hitting program. Make "Keep 'Em Rolling" a vital part of your own

advertising. Promote it locally through your own local newspaper, through your own local mailings. Use the business-building program your supplier has furnished you. The chances are that it will fit perfectly. Ask for material you can use locally if you don't have it now. If you want the added advantage of a program tied in directly with this Spring promotion, Farm Journal has one for you. It's full of ideas that really sell—that have worked for hundreds of dealers like yourself. To get yours, write

DEALER SERVICE DEPARTMENT
FARM JOURNAL
WASHINGTON SQUARE, PHILADELPHIA 5

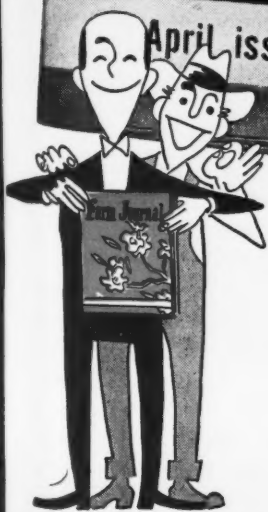
Timing is important! The April "Keep 'Em Rolling" editorial will be in the hands of your best customers March 17. That's Opportunity Day for you. Make sure your program is timed to hit your customers the same day Farm Journal hits them. Together, we will do the job right.

Farm Journal

APRIL 1951 • 20 CENTS

In this issue . . . a big
"KEEP 'EM ROLLING" editorial
promoting your business

April issue in more than 2,850,000 homes March 17th



A copy of the "Keep 'Em Rolling" editorial that appears in the April Farm Journal is yours for the asking. Use it! It makes a swell window or counter display. If you are a wholesaler or dealer and would like a copy of the largest selling magazine in rural America, just write us on your business letterhead.

Profit Sharing Continued from Page 53

A formula which assures a worthwhile addition to employee incomes becomes the *third* step toward profit-sharing success. When asked why he didn't start slowly by sharing 10 per cent, Jones replies, "Ten per cent is like a 2 per cent discount on a customer's bill. It's too damn small."

This percentage formula was the

first decision about the new Profit-Sharing Plan for Jones Service. And it was the *only* decision made by the owner. Every rule under which the plan operates was selected by vote of the employees.

Proper introduction of profit sharing to employees is the *fourth* requirement. They must understand what it is and how it works. A

series of weekly meetings was conducted for *all* 30 Jones employees—driveway attendants, mechanics, the janitor, car salesmen, accountant, supervisors and the office girl. Profitsharing was presented as a business proposition. Chalk diagrams were drawn on a blackboard. Profit was defined. Expenses were explained. Questions were asked and answered fully.

After employees discussed the various possible arrangements, a majority vote determined each feature of the plan. The Jones Service employees overwhelmingly voted these rules: (1) Equal shares of profit for each member, regardless of salary or service. (2) New employees eligible for membership after three months' service. (3) Cash payment of employee shares. (4) Quarterly distribution of profits.

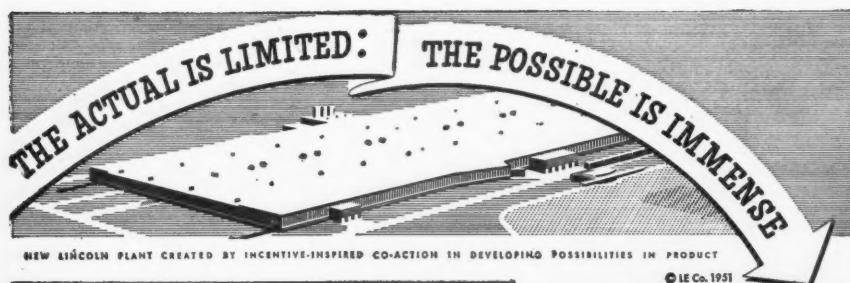
The owner did not attend many of these meetings. If the employees were to feel responsible for the success of the plan, it had to be *their* plan, not his. As Mr. Jones notes shrewdly, "If they don't make the right decisions, they realize that they made the mistake." Although members can amend their plan, they have made no changes.

This *fifth* element is vital to healthy profit sharing—employee participation in the formulation and administration of the plan. A Profit Sharing Board of five voting members administers the Jones Service plan. Board members discuss business problems, gather employee ideas and govern cash distributions. The employee members are elected yearly by the departments which they represent.

Employee members outnumber management representatives three to two. The firm's accountant, Maurice Steele, serves as financial adviser, but has no vote. The owner says, "It doesn't make any difference if employees outnumber management 10 to 1, if the employer has enough confidence in his employees to share profits."

How can profit sharing be kept close to the every day work and thoughts of employees? The Jones Service answer is the frequent sharing of business information.

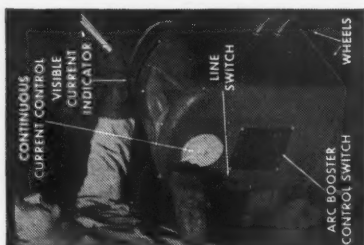
Monthly meetings of all em-
(Continued on page 120)



THE IMMENSITY OF THE POSSIBLE puts a 3-way squeeze on your costs

1. **Welds Easier Faster.** The arc starts *automatically* . . . no more bothersome electrode sticking.
 2. **Does More Work.** Broad current range handles electrodes from $\frac{3}{16}$ " to $\frac{1}{4}$ " . . . for light body work to heavy frames and axles.
 3. **Sells For Less** than other machines of like capacity . . . *today's best buy in AC arc welders.*
- How To Simplify Welded Repairs.** Latest welding procedures, speeds and costs are in the new 9th Edition Procedure Handbook of Arc Welding Design and Practice. Price only \$2.00 postpaid in the U.S.A.; \$2.50 elsewhere.

Lincoln "Fleetwelder 200 AC" has unique "Arc Booster."



Heavy Repairs Are Easier



Welds Cracked Car Frame
in only three minutes.

Does Body Work Faster



Body Jobs Need Less *body*
soldering and finishing.

IDEAL FOR
GARAGES AND SERVICE SHOPS

Send for free Bulletin 1301 on "Fleetwelder 200 AC," write Dept. 301,
THE LINCOLN ELECTRIC COMPANY
CLEVELAND 1, OHIO

Made to order for

dealers who want Action



THE BILLY ROSE SHOW supports Hudson dealers
weekly on coast-to-coast ABC-Television

The fabulous new HUDSON HORNET WITH MIRACLE H-POWER

HUDSON DEALERS have the HUDSON Hornet! . . . the fabulous new automobile that's fired public imagination like no other car in recent times!

Buyers everywhere want what the Hornet's got—magnificent luxury, outstanding durability and the sensational new H-145 engine that delivers Miracle H-Power!

This is the exciting combination of all that's best in a motor car . . . it's a made-to-order combination for dealers who want action!

And Hudson Dealers have it!

But that's far from all! Hudson Dealers also have blanket coverage of the new-car

market with 4 rugged "step-down" designed Hudson Custom series for '51—including the lower-priced Hudson Pacemaker, the Super-Six and Commodore—PLUS the fairest and most liberal franchise in the industry!

It's a line-up of dealer advantages that means action, progress, profits!

Perhaps you're the man we're looking for—the man to receive a Hudson Dealer Franchise in a choice locality. For complete and confidential information—write, wire or phone C. A. J. Hadley, General Sales Manager, Hudson Motor Car Company, Detroit 14, Michigan.

Standard trim and other specifications and accessories are subject to change without notice.

HUDSON
most **DURABLE**
car money can buy

Profit Sharing . . . Continued from Page 118

ployee-partners are conducted by an elected chairman, lubrication mechanic Francis Conklin. Financial results of the previous month are presented by Accountant Steele. These reports are accurate department by department breakdowns of sales, expenses, gross and net profits. The members then discuss why these results occurred, and

what can be done to improve them.

Profit sharing is not fully effective without this *sixth* element, the sharing of business problems and information. If employees are to help build a business, they must know both *how* and *why*. Dean Jones believes 25 employee-partners can do a better job than one person.

The Jones Service Profit-Sharing

Plan is a definite, written agreement. The complete plan with diagram illustrations forms the first section of an "Employee Partners Handbook." The agreement is signed by the owner and the employee representatives on the Profit Sharing Board.

Such a clearly written agreement is the *seventh* requirement of good profit sharing. It is concrete evidence of the good faith of both parties.

As Mr. Jones says, "We agreed to give profit sharing an all-out trial. For one year, win or lose, I couldn't touch the plan." Now the Iowa City firm's plan automatically renews without change every six months, unless a month's advance notice is given by the employer.

The *eighth* and final requirement has been stated well by Dean Jones, "Profit sharing isn't a substitute for anything." If sharing of profits is bought by low wages or poor working conditions, it's a useless gesture. At Jones Service wages, group insurance and other benefits remain untouched. Profit sharing is an *extra* payment for *extra* employee contributions.

How Jones Service rates with its employees was revealed by a recent survey of the Iowa City Auto Dealers Association. The Association reported to Dean Jones that 100 per cent of his employees "were proud that they worked for you." And 100 per cent "thought you had a great deal of interest in their welfare."

Skeptical businessmen tell the owner: Of course your employees are satisfied, but exactly how has profit sharing benefited you? The first year of profit sharing has provided Mr. Jones with some answers:

"Employees are taking the same interest in our customers as the employer. They know that dissatisfied or lost customers don't make net profit."

"It has a lot to do with hiring good men. It interests those you want and want to keep for a long time."

"If a man is in trouble on a job, they are so much more willing to help him out."

"I believe the business operates better while I'm away since profit sharing began."

AJAX

HYDRAULIC SERVICE JACKS

HAVE EVERYTHING IT TAKES
TO GIVE YOU YEARS OF
TROUBLE-FREE SERVICE





TROUBLE-PROOF POWER UNIT
Heart of all Ajax hydraulic service jacks is this precision engineered, ruggedly built hydraulic power unit. Every vital part is heat-treated.



DIRECT LINE DRIVE
This exclusive feature assures trouble-free performance by eliminating side strains on the power unit which cause leakage of jack fluid.



SPEEDY, FACTORY-QUALITY REPAIR SERVICE
8 Direct Factory Branches and 9 Authorized Service Stations staffed with factory-trained specialists provide fast, preventive maintenance and repair service with new jack guarantee.

● Here are two fast, rugged, hydraulic service jacks designed and built for long-lasting, dependable operation. Ease of operation . . . ample chassis length for dollying . . . positive locking 2-position handle adjustment . . . gravity centered balance for quick positioning make them a favorite for speedy, efficient work.

AJAX No. 2782—2 tons capacity—handles all passenger cars and light trucks with ample margins of safety and power.

AJAX No. 2784—4 tons capacity. Easily handles all passenger cars and all but the heaviest trucks and tractors.

In the uncertain times ahead, it's doubly important that you have good, sturdy dependable lifting equipment. Start modernizing your shop with Ajax Jacks, the *complete coverage line* of finest quality jacks.

AJAX AUTO PARTS COMPANY • RACINE, WISCONSIN



AJAX . . . THE COVERAGE LINE OF QUALITY JACKS

*you'll drive more safely
with a*

FULTON SUN SHIELD



Sunny driving can be

... tiresome ... or restful

Eyestrain can become a driving hazard almost without your knowing it. A flood of sun glare and sky glare through today's big windshields takes its toll in weary vision — fatigue that can well be avoided.

Like more than a million other drivers, you'll appreciate the restful protection of a Fulton Sun Shield. Why not enjoy such benefits as easier driving, light intensity reduced up to 50 percent, your car interior as much as 10 degrees cooler on brilliant, hot days?

The Fulton Sun Shield is a lasting investment in driving safety, comfort and dressed up car appearance. *Engineered* of lasting aluminum. Fittings are stainless steel. Attachment to car frame is solid, secure. Request FULTON from your car dealer or auto supply store. Price, \$24.95.



**NO. 36 DE LUXE
TRAFFIC LIGHT FINDER**

Brings those high overhead traffic lights into easy view. Easily attached to inside windshield frame. Fully adjustable for all drivers, \$2.95.

No. 34, with smaller lens, attached to windshield by vacuum cup, \$1.00.



**NO. 23
BUMPER CLAMP**

For use in attaching two-wheel utility trailer to automobile. All-steel, adjustable to fit most bumper shapes, \$6.65 (west of Rockies, \$7.00).

Prices subject to change without notice.



**NO. 0-7
TRAILER COUPLING**

For two-wheel trailer loads up to two tons. All-steel, can be bolted or welded to trailer tongue. Easily operated hand wheel, positive safety latch, heat-treated bolts, \$4.00 (west of Rockies, \$4.20.)



A car without a Fulton Shield is like a hat without a brim

FULTON

THE FULTON COMPANY, Milwaukee 14, Wisconsin
In Canada: J. C. Adams Co., Ltd., Toronto, Ontario

You Sell Safety

WHEN YOU SELL

FULTON SUN SHIELDS

Your customers will

see this message in the

POST April 14th.

THE FULTON COMPANY

1912 South 82nd Street

Milwaukee 14, Wisconsin

**Austin Announces
New Model—
A Convertible
In the A40 Line**



**AUTOMATIC
ONE-END LIFT**

Portable Pneumatic
Patent Pending



**versatile
sturdy
safe**



**Check These Features
of the New Model "B"**

- Increased Reach Under Car
- Wide Spread Lifting Hooks
- Complete Safety
- Smooth Operation
- Reduced Friction
- Decreased Weight
- Greater Ease of Handling
- Easily Serviced
- Wheels Cannot Seize
- Increased Accessibility
- Low Compressed Air Requirements
- Improved Protected Cylinder Assembly

Pays for Itself in 6 Months

With one hour of labor saved per day with this amazing new Lift . . . after six months those profits belong to you.

Thousands of alert car dealers, garages, body shops, and service stations are making money with the Automatic One-End Lift by saving time and effort . . . by making hard jobs easy.

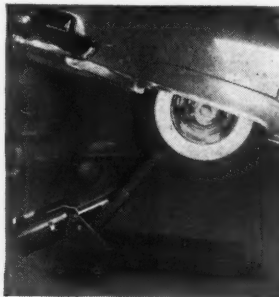
Here is a lift that is perfect for:

- Shops above the ground floor
- Shops too small for a permanent Lift
- Shops over water, rock, or sand
- Shops with low ceilings

. . . or as an auxiliary Lift for peak work periods.

Completely safe and portable, the Automatic One-End Lift locks "STEEL ON STEEL" at any one of six working heights . . . 20", 26", 32", 38", 44", 50".

The Lift operates off the nearest air hose and when idle, can be stored in a 2'x6½' space. Ask your jobber today about an Automatic One-End Lift. Write for Catalog G-2.



**AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO**

AUTOMOBILE JACKS • AUTOMOTIVE GRINDING WHEELS • LINMAR WATER PUMPS • MERCURY CLUTCHES

The Austin Motor Company Limited has introduced to the American market a sports convertible on the A40 chassis. Horsepower of the A40 engine has been increased by 15 per cent to a new rating of 46 hp. Twin carburetors are used on this model. The new five passenger convertible is upholstered in leather and includes as standard equipment direction signals which light, dual window electric windshield wipers, and built-in heater and defroster. The luggage compartment has a capacity of 14 cu. feet. There is complete weather protection when the top is up and the door windows are raised. When not in use the top folds into a recess behind the back rest. When the top is down the cover may be used to protect the entire rear compartment.

**Government Satisfies
Both New and Used Dealers!**

Both new and used car dealers appear to approve for once the action of the government in stabilizing new and used car prices. The order setting guide book quotations as ceilings on used cars eliminates the confusion that existed under the previous pricing order which set the maximum price at the highest level charged by the dealer for a similar car during the base period. The order is aimed particularly at eliminating sales of new cars on used car lots at prices higher than established new car prices. Actually, the practice was not too widespread but would tend to grow as shortages develop. The order came at a time when used car prices generally were at or below the guide book prices so that dealers were not caught with high priced merchandise on which they would take a loss.

**We're disc sanding 3 cars
in less time than
2 used to take!**

Save man-power—cut sanding time $\frac{1}{3}$ by swinging over to the THREE DISC METHOD—the new way to prepare the auto body for painting. Using three discs—as shown below—you'll do better work, faster . . . because each step of the grinding operation is done with the correct grit.

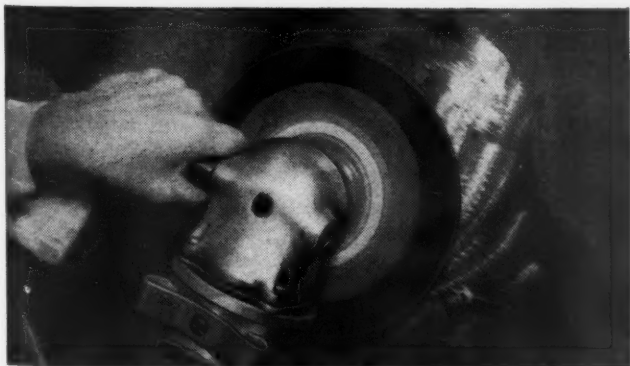
Actual shop tests show that the average sanding time per fender can be reduced from 18 minutes to 12 minutes. You'll save additional time in the paint shop, too . . . because the Three Disc Method gives a better surface, with fewer coats required for a mirror-smooth finish. Try it on your next job!



Start with a 3M Disc, Grit 16B (open coat) to remove rust and loose paint, to cut down solder spots. Sand until the sparks fly. Disc won't load.



Then change to Grit 24A (closed coat) . . . changing discs is easily done in a few seconds. Cut down welds, surface the metal and restore all contours.



Make the quick-change to Grit 50A (closed coat) to remove all surface irregularities and condition the metal. This grit will give you a scratch-free finish, cutting down the number of surfacer coats required.

**SAVE MANPOWER
WITH
3M ABRASIVES
3M ADHESIVES
"SCOTCH"
MASKING TAPE**

3M[®]
BRAND
ABRASIVES

Made in U.S.A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-Slip Surfacing, "3M" Adhesives. General Export: Durex Abrasives Corp., New Rochelle, N.Y. In Canada: Canadian Durex Abrasives Ltd., Brantford, Ontario.



Erny Passes Gavel to Albert Claus

Albert Claus has been elected president of the Automotive Service Assn. of Philadelphia. He succeeds Robert H. Erny, who is retiring after having served that organization as president since 1946. During Mr. Erny's term in this office the association's membership increased by 57 per cent and a number of important contributions were made by the association to the trade, to the public and to the city. This group, which is made up of representatives from all branches of the automotive industry, is one of the oldest service organizations in the country.

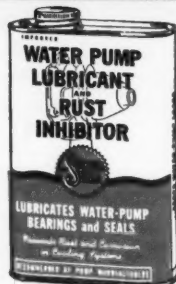
4 MORE LEADERS

SOLDER SEAL



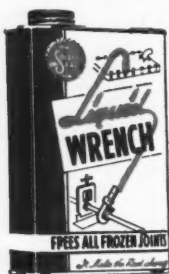
LIQUID RADIATOR REPAIR

Fast-acting, dependable repair for radiator leaks draws quick approval from your customers. Displayed in leading service stations coast to coast.



WATER PUMP LUBRICANT

Very popular dual-purpose product that lubricates water pump bearings and seals; prevents rust and corrosion in cooling system.



LIQUID WRENCH

World-famous super penetrant which instantly frees all frozen parts. Indispensable around service stations and garages. "It melts the rust away."



SUPER SOLVENT

Powerful oxalic acid formula cleans cooling system thoroughly without reverse flushing. Removes rust, scale and sludge. Neutralizer in bottom compartment of can.



RADIATOR SPECIALTY COMPANY

CHARLOTTE, NORTH CAROLINA
MAKERS OF CHEMICAL AND RUBBER SPECIALTY PRODUCTS

Metallurgist Shows Cause of Car Wear

Automotive engineers have long known that intermittent and short run use of automobiles causes excessive wear. Their opinion is backed up by findings of Walter E. Jominy, chief metallurgist for Chrysler Corporation and president of the American Society for Metals. In a paper delivered at Detroit, he said that a car driven only 15,000 miles in four years and operated for only short intervals showed wear many times greater than if the vehicle had been in constant use daily at much greater mileage. He said that in winter, particularly, engine wear is aggravated by infrequent use through corrosion of operating parts caused by condensation when the cylinders are heated up for only short intervals.



"I heard you come in this time."

Country Gentleman carries more Automotive Advertising per issue than any other Consumer Magazine!

Country Gentleman not only leads all the farm magazines . . . it's ahead of all consumer magazines of all kinds—weekly or monthly—in automotive advertising lineage per issue! And for good reason . . .

Manufacturers know Country Gentleman sells the best customers in America's biggest automotive market—the rich 3-unit farm market. Country Gentleman's 2,300,000 families own and

operate over 5,000,000 cars, trucks and tractors!

And Country Gentleman sells this big market because it is the best-read farm magazine throughout Rural America, as proved by a recent nationwide survey.

Dealers and jobbers alike know it. "Country Gentleman packs more selling power" say dealers by nearly 2 to 1—jobbers by 4 to 1—over the No. 2 farm magazine!

ALL THESE AUTOMOTIVE PRODUCTS ARE ADVERTISED IN Country Gentleman

AC Fuel Pumps
AC Oil Filters
AC Spark Plugs
Alemite Greasing Equipment & Fittings
Anthony Truck Hoists
Arvin Car Heaters
Atlas Batteries
Atlas Oil Filters
Atlas Seat Covers
Atlas Tires
Auto-Lite Batteries
Auto-Lite Spark Plugs
Baldwin Truck Bed Hoists
Behlen Gear Box for Tractors
Break-A-Way Couplers
Buick Cars
Carter Carburetors & Fuel Pumps
Casite Motor Tune-Up
Champion Spark Plugs

Chevrolet Cars
Chevrolet Trucks
Chrysler Cars
Coffing Hoist-Jacks
Continental Red Seal Engines
Continental Tractor Pumps
Crosley Cars
Crosley FarmOread
Cushman Motor Scooters
Delco Batteries
Delco-Remy Tractor Ignition
Dodge Cars
Dodge Trucks
DoMor Hydraulic Equipment
duPont Zerone & Zerex
Anti-Freeze
Dump-O-Matic Hydraulic Truck Hoists
Eagle Farm & Truck Tarps

Ethyl Gasoline
Federal-Mogul Bearings
Firestone Tractor Tires
Fisher Bodies
Ford Cars
Ford Industrial Engines
Ford Trucks
Fram Filters
General Motors Trucks
B. F. Goodrich Tires
B. F. Goodrich Tractor Tires
Goodyear Tires
Goodyear Tractor Tires
Grey-Rock Brake Linings
Harley-Davidson Motorcycles
Hastings Piston Rings
Heil Hydraulic Conversion Hoists
Heisler Tractor Equipment
Henry J Cars
Holley Carburetors

Hudson Cars
International Trucks
Kaiser Cars
Lloyd Tractor Chains
Marvel Inverse Oiler No. 1
Marvel Mystery Oil
Mercury Cars
Mobil Farm Lubrication
Mobiloil & Mobilgas
Motorola Car Radios
Motul Oils & Grease
Oldsmobile Cars
Pennsylvania Grade Crude Oil
Pennzoil
Perfect Circle Piston Rings
Perma-Guard Antifreeze
Plymouth Cars
Pontiac Cars
Prest-O-Lite Batteries

Purolator Oil Filters
Rebat Batteries
Rust-Oleum Rust Preventative
Sealed Power Piston Rings
Seiberling Tires
Seiberling Tractor Tires
Simoniz
Studebaker Cars
Studebaker Trucks
Texaco Farm Products
Texaco Marfak
Timken Bearings
U. S. Royal Tractor Tires
Weed Tire Chains
Willard Storage Batteries
Willys Jeep Cars, Trucks & Station Wagons
Wix Oil Filters
Wynn's Friction Proof Oil

List includes products advertised in Country Gentleman during 1950 and first three issues of 1951.

PROOF that ads in Country Gentleman help you sell more goods

A recent nationwide survey of men and women household heads of Country Gentleman homes revealed that they . . .

1 Read the advertising in Country Gentleman . . . in 96.2% of homes.

2 Get buying ideas from the advertising in 3 out of 4 homes.

3 Recall definite buying ideas in over 3 out of 4 of these homes.

Full survey details gladly furnished to anyone interested in selling more automotive products.

**GREATER POWER TO MOVE PEOPLE
GREATER POWER TO MOVE GOODS**



Most powerful advertising force in America's biggest automotive market

Now Walker brings you an entirely

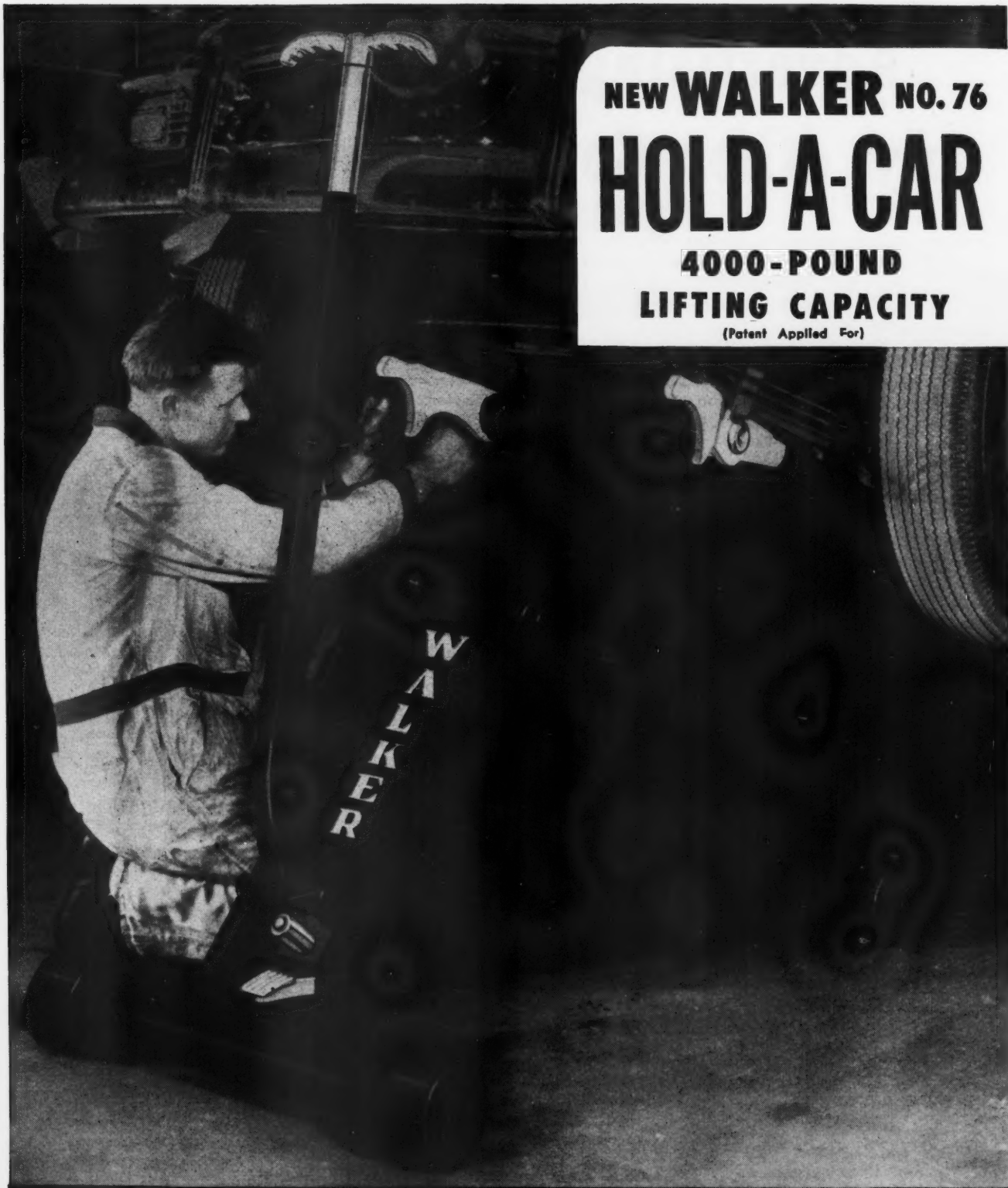
AS EASY TO POSITION AS A JACK . . . AS SAFE AND STABLE AS A LIFT . . .

NEW WALKER NO. 76

HOLD-A-CAR

**4000-POUND
LIFTING CAPACITY**

(Patent Applied For)



WALKER *Leads in* **LIFTING EQUIPMENT**

new concept in lifting equipment!

THE FIRST COMPLETELY SELF-POWERED, PORTABLE HYDRAULIC, ONE-END LIFT

● Here's a revolutionary new development in automotive lifting equipment. Never before have you had a single piece of equipment with such wide utility.

The new Walker HOLD-A-CAR saves time, saves space, increases shop efficiency. It serves all departments—it's for all types of under-car service—it brings new safety, new convenience, improved working conditions into every shop.

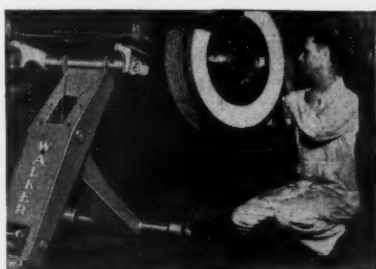
HOLD-A-CAR is fully self-powered by a great new "Synchro-Lock" hydraulic unit. You can move it to any part of the building or to another building. You can raise either front or rear end with ease. You have an entirely new range of under-car working heights—convenient, fatigue-free working heights. You can use

it as an extra lift for many operations where a complete lift installation would be impractical or unnecessarily expensive.

Walker HOLD-A-CAR is, truly, the safest thing on wheels. Its "Sure-Grip" universal lifting arms... its "Hydraulic Boom" action... and its many other exclusive Walker engineering features provide greater utility, greater safety, greater strength than any other movable lifting equipment.

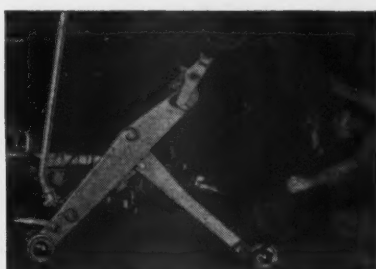
HOLD-A-CAR is the beginning of a new classification in automotive lifting equipment—an opportunity for you to change obsolete shop practices—an opportunity for a completely modern, completely efficient service shop. Ask your Walker Jobber.

THE MOST IMPORTANT DEVELOPMENT SINCE JACKS ON WHEELS



NEW "Fatigue-Free" Working Height Improves Mechanic Productivity

Uncomfortable, inefficient, flat-on-your-back creeper days are over. Now you can raise the "job" to a maximum height of 46½"—almost four feet—bringing a new freedom of working conditions to a wide range of service jobs.



NEW "Pyramid" Stability Provides Safe, Rigid Working Conditions

The load rests as though it were on the peak of a pyramid, with a base of 32" x 46". Strong, sure-grip lifting arms reach out 23½"—to prevent side-sway, to hold the load rigidly, securely, positively, beyond the center-balance point.



NEW "Synchro-Lock" Safety Assures Positive Protection at All Times

Hydraulic unit automatically synchronizes a positive mechanical safety lock with its own hydraulic operation—providing complete protection of the load and the operator at all times. Adequate margins of safety are engineered into the sturdy chassis and lifting boom.

**ANOTHER
WALKER
SERVICE-
SPEEDER!**

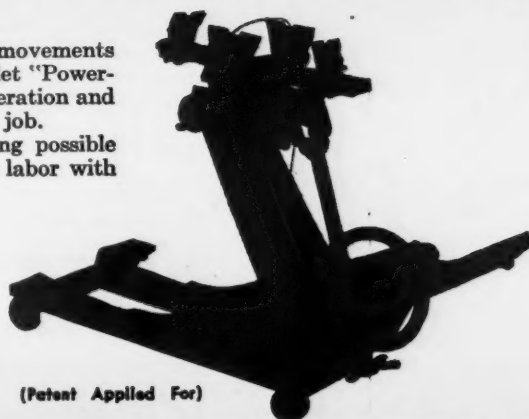
SENSATIONAL NEW AUTOMATIC TRANSMISSION JACK

WALKER **UNI-CRADLE** NO. 44

The new Walker UNI-CRADLE combines all of the movements necessary to service all automatic transmissions, including Chevrolet "Powerglide." It's precision engineered in every detail for service floor operation and makes automatic transmission service a practical, safe, one-man job.

No handling of the transmission itself is necessary, eliminating possible damage. Actual service tests show amazing savings in time and labor with Walker UNI-CRADLE.

- "AXIS-CENTER" ROTATION
Accurate, more positive alignment
- "BOMB-SIGHT" CONTROLS
Permits close tolerance "inching" into position
- 92° TILTING ARC
Greater ease in removal and installation
- "ALL-TRANSMISSION" CRADLE
Makes servicing faster, safer, easier



(Patent Applied For)

WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WISCONSIN

Makers of Walker Jacks, Exhaust Silencers, Oil Filters, Electric Lifts

AMA Program Stresses Essentiality of Cars

With Washington officials apparently still unconvinced on the essential nature of passenger cars, AMA is waging an intensive campaign to stress to both the government and the public generally, the vital role that passenger cars play in the national economy. The industry recently made a presentation to NPA which stressed the following facts: 1—In terms of mileage and trips more than half of all auto-

mobile use is for earning a living. 2—Average age of passenger cars today is nearly 8 years, compared with 5½ years in 1941. 3—No middle age cars—5 to 7 years old—are available today for replacement because of interruption of production by World War II. 4—From 60 to 76 per cent of all cars bought by farmers and skilled and unskilled workers are used cars. 5—One-third of cars in use today are 10 or more years old, with an average of 79,000 miles on the speedometer.



This pretty German motorist is testing the new Jack-in-Bumper which was developed by a Berlin inventor. In each of the four bumper guards is a jack which operates easily from a hand-crank. If necessary all four wheels can be lifted.

In SOME countries, this sign means
"Unguarded Level Crossing."

EIS is the Stop-Sign of Brake Fluids that give your customers the greatest protection in all climates—in any extreme of temperature.

Whether your specifications call for "Moderate" or "Heavy Duty", EIS will fill the bill. They meet or exceed SAE requirements.

Check fluid when you check brakes! Refill with EIS Super 40 or EIS Super 50 for the PLUS profit.

They're packaged in a complete line of sizes from 3 oz. refills to 55 gallon drums.

EIS AUTOMOTIVE CORP., MIDDLETOWN, CONN.

Ask Your Jobber or Write Us Direct.



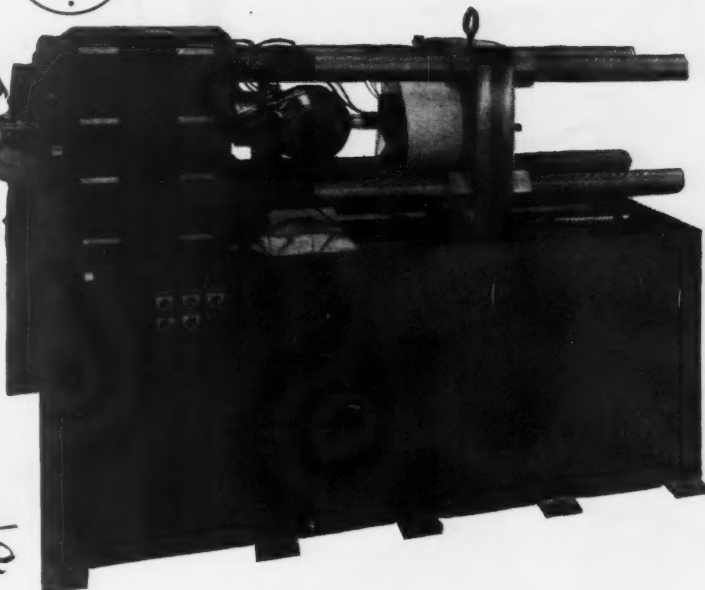
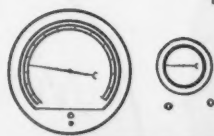
RFC Loan Helps K-F Weather Strike

RFC has revealed that Kaiser-Frazer Corp. borrowed more than \$7 million to meet expenses during its recent 10-day strike. The money came from a \$25 million loan granted by RFC to K-F last Dec. 4. Previously, K-F had borrowed \$7,247,641 to finance its operations but had paid back the money. The loan agency granted an identical sum to K-F to carry its obligations during the strike, when its income was cut off. Originally, the company had asked for \$18 million to meet its obligations, but the amount was reduced to the \$7 million plus figure. The RFC also said that K-F had received nearly a quarter of a million dollars worth of war contracts "at our request".



SELL *PRE-TESTED* PISTONS!

Piston fatigue test
setup in Alcoa Development
Laboratories.

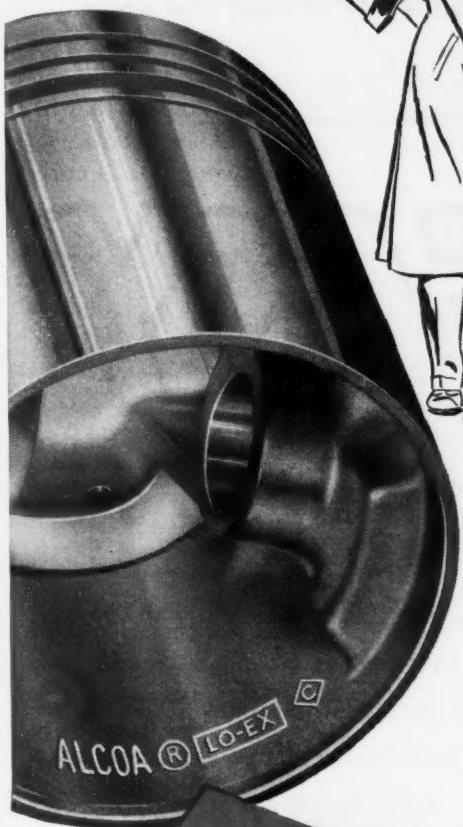


An engine overhaul costs your customer too much to risk faulty pistons. Play safe. Look for the ALCOA Lo-Ex trademark inside. It tells you the piston design has been thoroughly *pre-tested* for strength and fit and performance.

That the alloy is tough, light in weight, low in expansion. That pistons will run cool, deliver full power, save gas and oil.

Always stock aluminum pistons of ALCOA Lo-Ex alloy—precision cast by Alcoa, finished by expert piston makers.

ALUMINUM COMPANY OF AMERICA, 1850C Gulf Building, Pittsburgh 19, Pennsylvania.



LOOK FOR
**ALCOA
LO-EX**



when you stock replacement pistons*

PISTON CASTINGS OF EVERY TYPE



T-Slot



Trans-Slot



Strut



Trunk Type

*Availability may be limited by military needs for aluminum.

MORE HAUL PER OVERHAUL!



IT'S EASY TO
MAKE EXTRA MONEY
WITH THESE 5-STAR
SALES MAKERS!

CAPT. EASY

Says it's EASY!

There's bigger maintenance business ahead, with cars harder to get and people taking better care of their cars. That can mean more profitable replacement business for you—IF you're ready for it—if you've stocked the parts you need to do a replacement business. And there are even more profits in it—*IF you stock Weatherhead, the original equipment line.* And to help you stock and sell replacement fittings easier and faster, Weatherhead offers you a complete range of 5-Star Salesmakers.

The EASY line

EASY to Sell

You have all the fittings you need for hurry-up jobs—actually at your finger tips! This trim, timesaving merchandiser holds 'em all. It works as simply as this: Just open the drawer of the self-serve cabinet, select the fitting you need. Assortments come in two sizes: F-92, 191 pieces; F-93, 218 pieces.

Weatherhead Fittings are easy to sell because they're easy to install. Since Weatherhead Fittings are original equipment on all cars, the part you're installing is identical to the one you're replacing.



EASY to Stock

This 5-Star Salesmaker, the Junior Merchandiser (F-200), keeps your stock of Weatherhead Fittings clean, neat and in full view. You always know exactly how much stock you have on hand.

Weatherhead Fittings are easy to stock because you need only a minimum inventory to service all makes of cars. Parts included in Weatherhead 5-Star Salesmakers were determined on the basis of careful studies plus years of experience in the fittings business.



EASY to Identify

A big, easy-to-read wall chart is yours for the asking. It shows the complete line of fittings and drain cocks on one side, flexible fuel lines on reverse side.



WRITE for complete details... get the Weatherhead catalog "Original Equipment Automotive Parts"—Address: The Weatherhead Co., Dept. D, 300 East 131st Street, Cleveland 8, Ohio.

to handle is



Rochester Carburetor . Continued from Page 44

float. Remove the float needle seat and gasket with a wide-bladed screwdriver. (Fig. 6.) Remove the main well support and gasket. (Fig. 7.) Remove the power-piston and spring, but do not remove the idle tube.

Disassembling the bowl. (Fig. 8.) Remove the slotted brass pump discharge guide by using a small

bit screwdriver to compress top portions of guide gradually. The spring will cause the guide to jump out. Remove the pump discharge guide, spring and ball. Remove the two hair pin type springs from the pump link and remove the pump link from the throttle lever and pump plunger arm. Remove the pump plunger from the

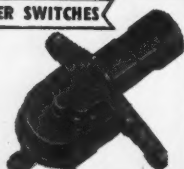
bowl. Remove the pump return spring and intake ball from the well. Carefully remove the pump intake screen from the bowl. Note: Do not remove the choke heat supporter if tube is tied and sealed. Loose seal sometimes can be tightened by using special tool No. J 4551. Up-end the carburetor bowl and remove the two large attaching screws. The throttle body and gasket may now be removed.

Disassembling the throttle body. Remove the idle adjusting needle and spring. Remove the idle screw from the throttle lever. Remove the fast idle cam. Before assembling the carburetor, all parts should be thoroughly cleaned and inspected for wear. However, do not clean the choke coil or housing or pump plunger. Clean the pump plunger in clean gasoline only. Blow out all passages in the casting with dry compressed air and blow out all parts until they are dry. Caution: Do not pass drills or wires through the calibrated jets or passages as this may enlarge the orifices and seriously affect the carburetor calibration. Check all parts for wear. If wear is noted, defective parts must be replaced. Check the float needle for wear. If wear is noted the assembly must be replaced. Check the float lip for wear and the float for dents. Check the float for leaks by shaking. Check the throttle and choke bores in the throttle body or casting for wear or out of round. Check the idle adjusting needle for burrs or ridges. Such a condition requires replace-

(Continued on page 134)

PREFITTED IGNITION PARTS

DIMMER SWITCHES



KEM

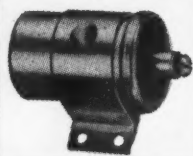
Prefitted

CONTACT POINTS



THE BETTER THE IGNITION PART THE LONGER THE MILEAGE

CONDENSERS



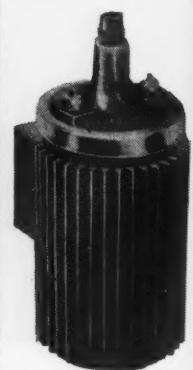
VOLTAGE REGULATORS



Kem prefitted ignition parts are known the world over. Kem is an honored name in the automotive field and justly merits its fame and leadership. Over thirty years of scientific research and automotive engineering experience have gone into its automotive replacement parts and equipment of dependable stamina and unexcelled quality.

REPLACE • REPAIR • REBUILD WITH KEM

IGNITION COILS



PARTIAL LIST OF IGNITION PARTS MADE BY KEM

Contact Points	Voltage Regulators
Condensers	Cutouts
Coils	Bushings
Heads	Horn Relays
Rotors	Headlight Relays
Generator Brushes	Starter Switches
Starter Brushes	Stoplight Switches
Dimmer Switches	Lock Switches

In addition Kem manufactures the famous Fuel Pump with the "Lifetime" Binalon Diaphragm, Fuel and Vacuum Pump Parts, Fix-A-Pump Paks, Fuel Filters, Testers and Tools.

KEM MANUFACTURING COMPANY, INC.

FAIR LAWN, NEW JERSEY

Cable Address: Kemmeks Fairlawnnewjersey



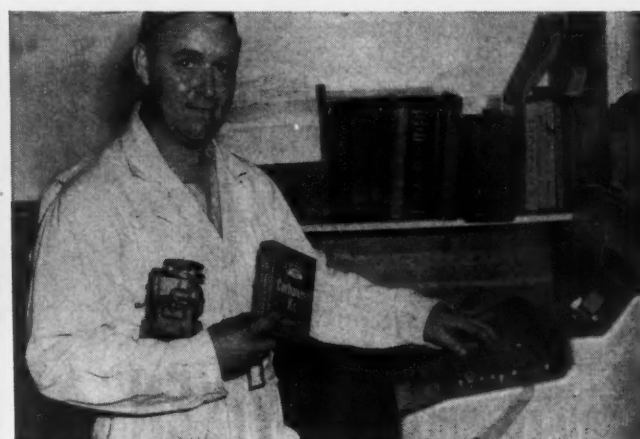
"Here's a little trick I bet you'd like to know, Hugo!"

"Helps us get more carburetor repairs"

reports E. C. LaDon
Tink & Ed's Garage
San Diego, California



Mr. LaDon writes: "We've done about 18 carburetor jobs since we opened our Hygrade Rebuilding Dept., which means we're getting more of this type of work than we did before."



"Previously, we didn't repair the carburetors ourselves," Mr. LaDon adds. "Now we have it down to the point where we can turn out a complete rebuilt in 30 minutes of bench time."



\$69⁷⁵ complete!

Includes the priceless Hygrade Manual, assortment of 20 kits to repair all Chevy, Plymouth, Ford carburetors; all the tools and equipment you need; cabinet; a continuing bulletin service; metal signs, outdoor banner, etc. (This outfit is worth over \$100.00.)

Customers today have a healthy respect for the shop that really knows carburetors *inside and out*. Not only will they bring you their carburetor repairs; they'll also come to you for a better *tune-up job*. And every rebuilt means a satisfied customer, because you *know* you replaced all the parts that wear with brand new parts. 6 days is all it takes to get your Hygrade Rebuilding Dept. started and you make back your entire investment from the profit on only 9 jobs! Write today for more information. HYGRADE PRODUCTS DIVISION, Standard Motor Products, Inc., 35-35 Thirty-fifth Street, Long Island City 1, N. Y.

HYGRADE

FINGERTIP SYSTEM OF CARBURETOR REBUILDING

by the makers of Blue Streak Ignition Products

Rochester Carburetor . Continued from Page 132

ment of the part. If wear is noted on steps of fast idle cam, it should be replaced as it may upset the engine speed during the choking period. Inspect the pump plunger lever. Replace the plunger if the lever is damaged. Inspect the gaskets to see if they appear hard or brittle or if the edges are torn or distorted. If any such condi-

tion is noted they must be replaced. Check to see if the lower end of the heat tube is tight and sealed in the throttle body, if not, a new seal will have to be installed after carburetor assembly or poor choke operation will result from a vacuum leak. Inspect the heat tube. If it appears unduly compressed or out of round,

it should be replaced. Check both the filter screens for dirt and lint. Clean them and if they are distorted or plugged, replace them.

Assembling and Adjusting the Carburetor

Throttle Body Assembly. Install the idle screw and throttle lever. Screw the idle adjusting needle and spring into the throttle body until it is finger tight. Screw in one and a half turns as a temporary idle adjustment. Make the final adjustment on the engine. Install fast idle cam. Up-end bowl and place the new throttle body gasket in position and attach the throttle body. Tighten the screws evenly and securely.

Assembling the Bowl. (Fig. 9.) Drop the small aluminum ball into the pump well hole and replace the pump return spring. Press the spring with the finger to the center of the pump well. Install the pump plunger assembly and attach the pump link to the pump plunger arm and throttle arm. Attach two pin springs to the end of the pump. Note: The bend in the pump link must face away from the throttle shaft. Press the pump filter screen carefully into position. Install the large steel ball into the pump discharge cavity. Place the spring and pump discharge guide on top of the ball. (Fig. 10.) Spread the pump discharge guide slightly with a screwdriver blade to keep it in place.

Assembling the Cover. If the idle tube is loose the cover must be replaced since the cover and idle tube are serviced as an assembly. Install the float needle seat and gasket using a screwdriver with 1/4 in. blade. Place the power piston spring and power piston in the vacuum cavity. The piston should ride free in the cavities. Replace the new cover gasket in the cover and check to be sure that all cover and gasket holes are aligned. Attach the main well support to the cover securely. Install the main metering jet in the well support. Assemble the float needle to the float and place the float in position. Install the float hinge pin.

Adjusting the Float. (Fig. 11.) With the air horn gasket installed, (Continued on page 136)

"VIXEN" FILES ARE MADE ONLY BY HELLER



You're sure it's "VIXEN"

...when you see the white carton
and the new white envelope

To remove more metal more easily, more smoothly, use a "VIXEN." It's the original milled curved-tooth file for body and fender dent work. It's made only by Heller!

For quick identification and protection against imitations, a "VIXEN" comes factory-sealed in a white envelope, and packaged in a new white carton.

Ask your jobber for the popular "VIXEN" babbitt cut for autobody filing.

HELLER BROTHERS COMPANY

America's Oldest File Manufacturer
Newark 4, New Jersey Newcomerstown, Ohio



Handy holder easily curves "VIXEN" in or out to fit contour of surface.

Only a milled curved-tooth "VIXEN" can be resharpened again and again! This means that "VIXEN" costs less in the long run!

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Trade Mark Reg. U.S. Pat. Off.

MILLED CURVED-TOOTH FILES



**SIGNS GOING UP . . .
SALES GOING UP . . .**

for users of

KOPPERS

K-Spun

PISTON RINGS!



EVERYWHERE, wide-awake repair shops are using Koppers K-Spun Piston Rings for better re-ring jobs—becoming *Certified Engine Experts* for greater consumer recognition—using the *Sales Booster Plan* for more profits!

See your Koppers A-H Jobber for full details on how you can become a *Certified Engine Expert*. Order K-Spun Rings—engineered sets for *all* makes of cars and trucks. And see him to get all the advantages of exclusive, patented KOETHERIZING® which expands a set of pistons in five minutes, with permanent precision, for less than a dollar a piston! **KOPPERS COMPANY, INC.** *Piston Ring Dept.*, Baltimore 3, Md.

A GREAT RING to put ~~NEW LIFE~~ in your re-ring jobs!



Guaranteed against breakage for the life of the engine, Koppers K-Spun Piston Rings are your surest way to provide positive oil control, eliminate blow-by and restore power to car and truck engines. That's because they're twice as strong as conventional rings—have four times greater resistance to combustion shock, much greater wear resistance. Koppers' centrifugal casting process does the job! Molten metal is spun while it hardens to create an entirely different, tougher, stronger material than ordinary cast iron—KOPPERS K-SPUN—the piston ring material made especially for today's high-compression engines!

**PROVED BEST . . . in the Lab,
on the Dynamometer,
on the Road**



A GREAT PROMOTION to put ~~NEW LIFE~~ in your SALES!



... with national advertising in the *Post*, *Time* and *Newsweek* plugging good car care and offering a free book to build red-hot sales leads!
... with a *Sales Booster Plan*, including a book that's chock-full of information and plenty of sales helps for you!

Rochester Carburetor. Continued from Page 134

place the float gauge in position. Adjust the floats by bending the float arm so that the top of the float just touches the float gauge. To insure ample entry of fuel into the float bowl under high speed operation, it is necessary to properly adjust the float drop. At the same time each float should be centered between the gauge blades to make certain that the float will

not rub on the side of the float bowl. (Fig. 12.) Place the float gauge in position with the air horn gasket in place and the air horn right side up. If necessary, bend the float tang at the rear end to permit the gauge to slide between the air horn gasket and the floats. With the gauge in the same position bend the float arms to center the floats between the

legs of the gauge. Then the float level should be re-checked to be certain that it has not changed. Attach the cover to the bowl with six attachment screws. Install the filter screen, strainer nut and gasket assembly in the cover. (Fig. 13.)

Assembling the Choke. Place the new gasket into position and attach the choke housing into the

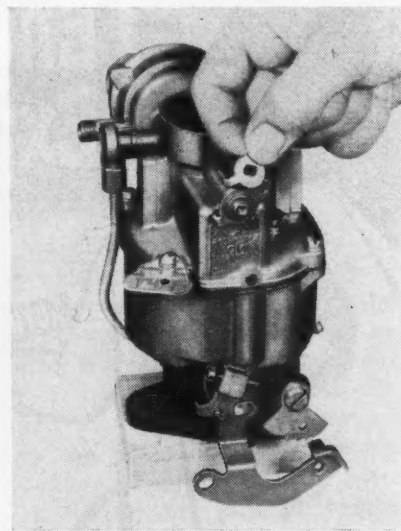


Fig. 13. Installing the choke trip lever.

cover. Tighten the screws securely. Place a hex fitting on the choke packing suction tube and tighten the fitting on the housing. Fitting must be tight to prevent loss of vacuum. Then assemble the choke piston to the shaft with the pin and clip. Place it into the choke housing bore. Rotate the choke shaft counter clockwise so that the piston rides in the housing cavity. Install the choke valve on the choke shaft with the letters R.P. facing upwards. Center the choke valve before tightening the screws. Place the baffle plate and choke housing into position and install the choke coil and cover. Rotate the cover clockwise until the index marks on the cover and housing are aligned. Attach three retainer screws to the choke housing and tighten them securely. Note: Choke valves should be lightly closed at room temperature, 75 degrees, when the index mark on the cover and housing are aligned. Then place the choke counter weight on the end of the choke shaft with the tang facing

(Continued on page 140)

**Make V-8 valve grind jobs Pay Off
and Get a Double Profit by Installing
JOHNSON adjustable tappets**



It's easier to sell tappets when the head is off. And you can make a double profit with less work by recommending Johnson Adjustable Tappets with your valve grind jobs. During a valve grind, lift out the old tappets and slip in Johnson Tappets. As simple as that you can make this double profit and save the hard work of grinding off valve stems.

Your customer is better satisfied because you can adjust Johnson Tappets to give him a smoother, quieter engine. Adjustment is simple. Special spanners included with each set of tappets leave both hands free to make faster, more accurate adjustments. Once you've set the patented self-locking screw, Johnson Tappets will maintain the setting.

There's more profit for you if you sell Johnson Adjustable Tappets with every Ford and Mercury V-8 valve grind. Order a supply of Johnson Tappets today.

SEE YOUR JOBBER!

"Tappets Are Our Business"

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PRODUCTS

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Performance that stands out!

● No other manufacturer can duplicate Ditzler's record of consistently *dependable performance* in the field of automotive finishes. That's why Ditzler finishes have been used year after year for nearly half a century by most of the builders of passenger cars, trucks and buses. This continuous preference has

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Save time, effort and cost with

DITZLER TWO-STAR★★ Materials!

● You can't buy better lacquers for automotive refinishing. Thinned with Ditzler Two-Star★★ Thinner, DTL-113, Ditzler Two-Star★★ Lacquers flow on so smoothly that little compounding is required. Two-Star★★ Polishing Cleaner, DRX-4, gives a brilliant lustre. Use Two-Star★★ Polishing Compound, DRX-25, if color is sprayed a little dry, or over-spray is rough. Two-Star★★ Gloss Undercoat, DL-900, eliminates sand scratches in old lacquers. You'll find these materials ideal for small touch-up spots on baked enamel jobs. They are also deluxe materials for all-over jobs in lacquer.

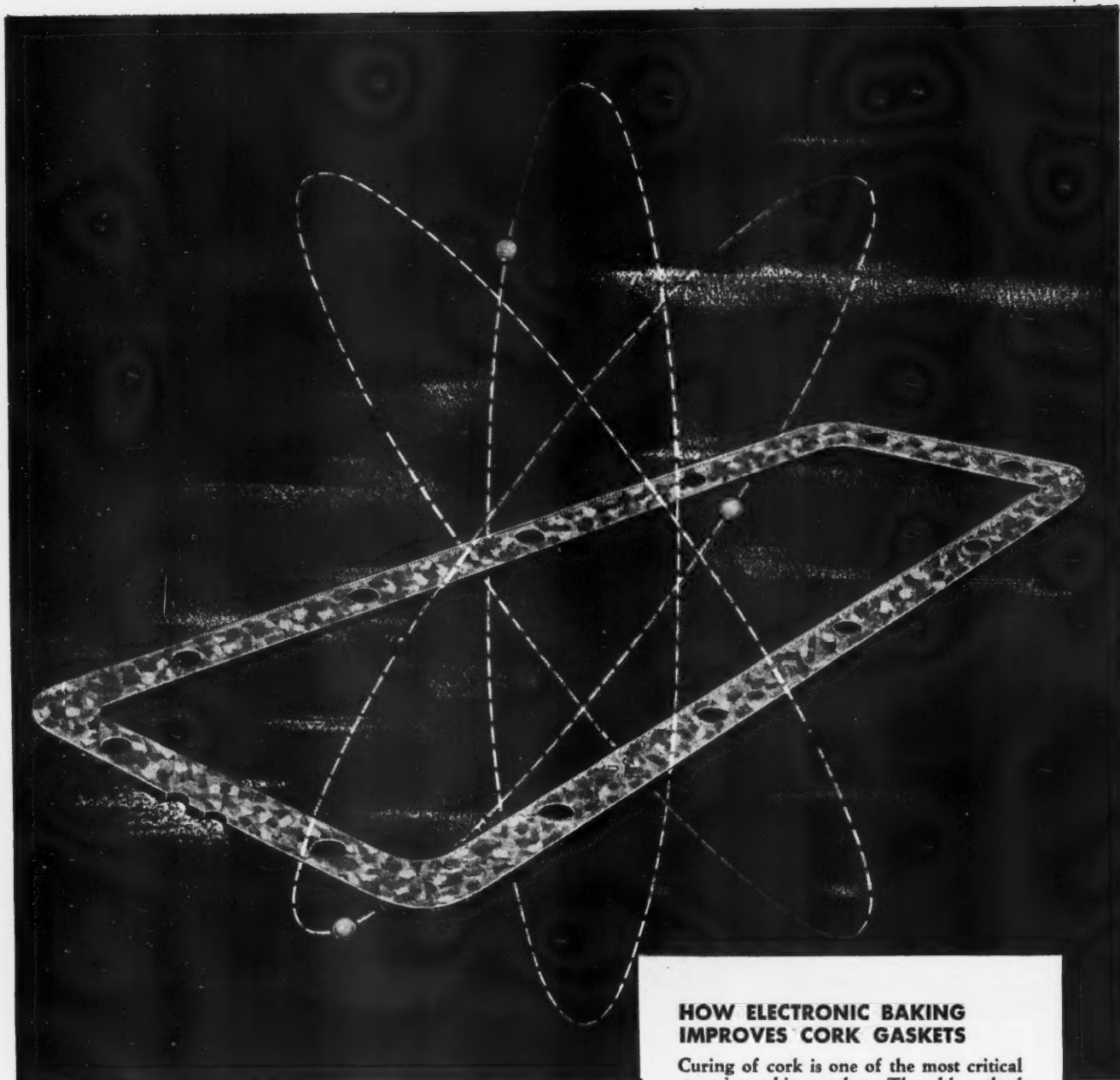
DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan

DITZLER



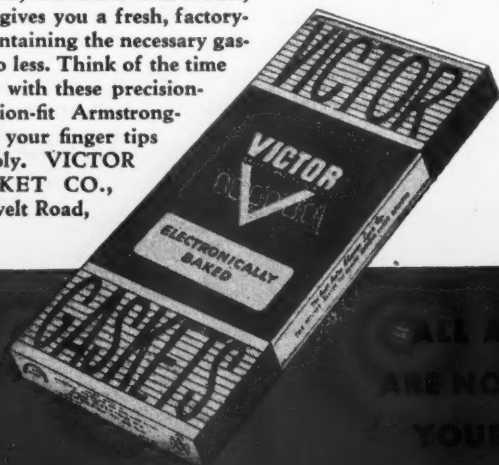
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PITTSBURGH PLATE GLASS COMPANY



IN CONVENIENT, ECONOMICAL JOB SETS

No need to buy more gaskets than necessary for any job when you use Armstrong-Victor sets. Name the job, the make and model, and your Jobber gives you a fresh, factory-sealed package containing the necessary gaskets—no more, no less. Think of the time saved on the job with these precision-made for precision-fit Armstrong-Victor gaskets at your finger tips for every assembly. **VICTOR MFG. & GASKET CO.**, 5750 West Roosevelt Road, Chicago 50, Ill.



HOW ELECTRONIC BAKING IMPROVES CORK GASKETS

Curing of cork is one of the most critical steps in making gaskets. The old method of forcing steam heat through the cork composition took hours—often resulted in over-curing on the outside or under-curing on the inside.

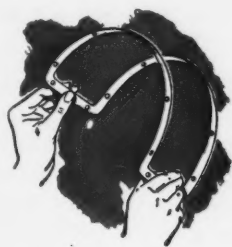
Now, high frequency Electronic Baking cures the cork composition thoroughly, evenly, in less than 5 minutes. In a flash, it sets the raw cork, binder, and other ingredients, giving the composition a strong body of maximum uniformity, with the natural liveliness of raw cork fully retained. In the finished gaskets, this results in uniform strength, increased pliability and resiliency, with highly improved sealing efficiency.

ALL ARMSTRONG-VICTOR GASKETS
ARE NOW MADE BY THIS NEW PROCESS
YOUR VICTOR JOBBER HAS THEM!

NEW ELECTRONIC BAKING PROCESS

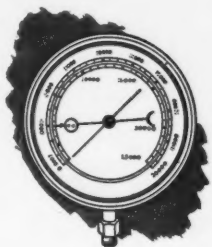
BY ARMSTRONG-VICTOR

Makes Better Cork Gaskets



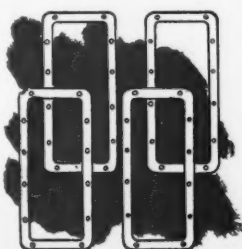
INCREASES FLEXIBILITY

Because Electronic Baking gives the cork composition greater uniformity and strength, gaskets are more pliable—easier to handle—less likely to break or crack.



ADDS RESILIENCY

Electronic Baking prevents loss of the natural liveliness of raw cork frequently destroyed by over-curing. Proved by compression tests, gaskets retain the maximum resiliency needed for lasting sealing efficiency.



IMPROVES UNIFORMITY

Electronic Baking assures thoroughly penetrating even heat almost instantaneously. No over-curing or under-curing. This gives the cork composition maximum uniformity—in density, strength, and flexibility.

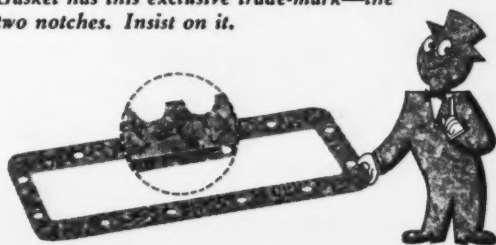
Here is the greatest advance in cork gasket-making since modern Armstrong cork composition was first introduced. Fast, efficient electronic cork baking takes the place of slow uncertain steam curing. The result—stronger, livelier, better-sealing gaskets than ever before.

Naturally you'll want these improved cork gaskets for your very next job. Your jobber has them! Just ask for Armstrong-Victor cork gaskets in the smart blue and yellow striped package that's labeled "ELECTRONICALLY BAKED."

FREE OFFER! A set of 4 attractive tumbler size coasters made of Electronically Baked cork will be sent on request. No obligation. Just send your name to Victor on a penny postcard.

VIC CORKY SAYS:

Only a genuine Armstrong-Victor Replacement Cork Gasket has this exclusive trade-mark—the two notches. Insist on it.



Armstrong-Victor



CORK COMPOSITION GASKETS • CORK SHEETS

Rochester Carburetor . Continued from Page 136

the choke housing. Install spacing washer and the trip lever so that the tang of the trip lever is atop counter weight tang when choke is open. Install the choke rod and retainer to the counter weight and fast idle cam. The counter pin end of the rod must connect to the fast idle cam. Assemble the counter pin to the lower

end of the rod. Then turn the ends to prevent binding or interference.

Installation of Choke Suction Seal. (Fig. 14.) If the choke suction tube seal in the throttle body requires replacement, proceed as follows: (This operation must be performed after the carburetor is completely assembled.) Loosen the throttle body to bowl attach-

ment screws. Place the flared end of the tube with seal into throttle body. Using the special tool, tap lightly to hold the seal into the

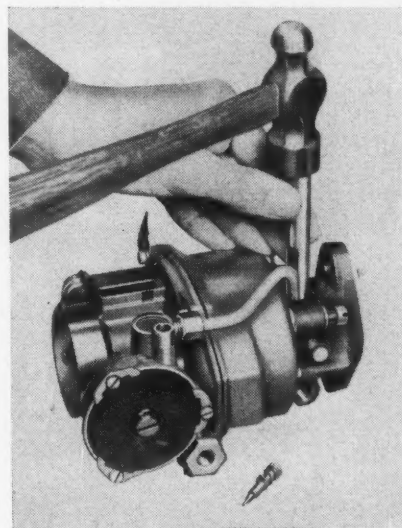


Fig. 14. Spreading the suction tube seal.

throttle body. Rotate tube while tapping the seal, so that it is started uniformly into the throttle body. Install a hex fitting and new packing on the upper end of the tube and fasten the tube to the choke housing by turning the hex nut up finger tight. Using the special tool and a hammer, spread the seal into the throttle body securely. Completely loosen the hex nut and check that the tube is tight in the throttle body and that it will not turn. Then tighten the hex nut to

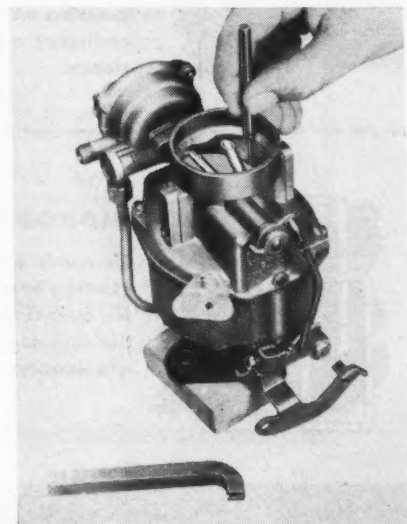


Fig. 15. Checking the fast idle adjustment.

choke housing securely. Tighten throttle to bowl attachment
(Continued on page 142)

*Just Like
Money in the Bank!*

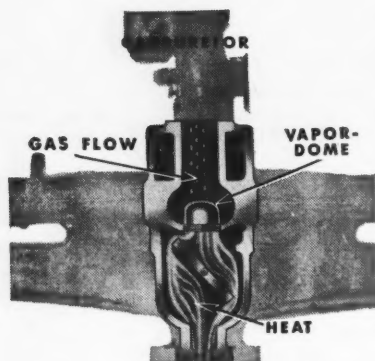
WHY NOT

make your customers' cars

investments instead of liabilities?

VAPOR-DOME

patent pending



*by actual tests to 10%

Give them such savings as better gas mileage*! Increase efficiency, reduce carbon formation and give them other advantages by installing a VAPOR-DOME on their car today. VAPOR-DOME means satisfied customers—and satisfied customers mean more profits for you.

WHAT IS THE VAPOR-DOME?

The VAPOR-DOME is a scientifically designed automotive device installed in the intake manifold. (see illustration)

Many years of research have gone into the development of the VAPOR-DOME to make it the outstanding automotive achievement of the year.

Join, today, the thousands of other dealers who have given themselves greater profits through satisfied customers by taking on the VAPOR-DOME line.

**NEW PIC-UP—SMOOTHER PERFORMANCE
FOR 1949 CHEVY CARBURETORS**

see your jobber or write for further information



SALES OFFICE
612 N. Michigan Ave.
Chicago 11, Illinois

Dept. MA-3

EXPORT OFFICE
38 S. Dearborn St.
Chicago 3, Illinois, U.S.A.



PARTNERS IN SERVICE

1 out of 4



Important Facts For Independent Garage Men

You're sure of a large, continuing demand for the parts you obtain from your Chevrolet dealer—because more than one out of every four vehicles on the road today is a Chevrolet. Be prepared for this constant, profitable service market. Order your supply of Genuine Chevrolet Parts today.

You and your Chevrolet dealer are a combination that can really step up your service business. He carries a well balanced stock of quality parts. You can use these to increase service efficiency . . . to increase customer satisfaction. And remember, your Chevrolet dealer is always ready, willing and able to lend you a hand on any service problem.



FOR YOUR BEST DEAL

DEAL WITH YOUR CHEVROLET DEALER

Rochester Carburetor . Continued from Page 140

screws evenly and securely. After installing the carburetor on the car, warm up the engine then check the seal with the gasoline. If there is a leak the engine will stall or will roll.

Adjusting the Carburetor. Aside from the float adjustment there are only two other adjustments, fast idle and unloader. Make the

adjustment as follows: With the choke cover and the housing index marks aligned, turn the idle screw in until it contacts the second step of the fast idle cam. (Fig. 15.) Holding the screw tightly against the cam, bend the choke rod until the small end of gage, which is .059 in., just slides easily between the lower edge of the



Fig. 16. Checking the unloader adjustment

choke valve and carburetor cover. (Fig. 16.)

The unloader adjustment is made in the following manner: With the throttle lever in full, wide-open position there should be a clearance between the lower edge of the choke valve and the carburetor cover, so that the large end, which is .221 in., will just

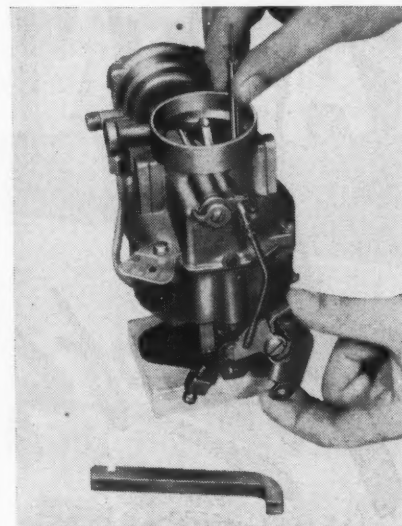


Fig. 17. Adjusting the unloader.

slide freely. (Fig. 17.) Bend tang of the throttle lever to obtain necessary clearance.

Globe Hoist Appoints Aitkin-Kynett Agency

Globe Hoist Company, Philadelphia, announces appointment of the Aitkin-Kynett Co., also of Philadelphia, as its advertising agency. The appointment is effective February 1st.

Chilton's MOTOR AGE, MARCH, 1951

Prepare to get your share!

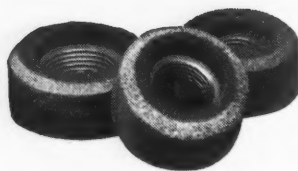
Millions of repair jobs loom for auto service trade

SIMONDS
ABRASIVE CO.
grinding wheels

For Valve Refacing and Valve Seat Grinding



Fewer new cars mean more repair work for YOU. Get set now. When it comes to grinding jobs — you'll get best results from SIMONDS Wheels — made by grinding wheel makers — used by leading auto manufacturers.



Ask your jobber for SIMONDS GRINDING WHEELS — the complete line for all automotive grinding jobs.

SIMONDS ABRASIVE COMPANY
TACONY & FRALEY STREETS • PHILADELPHIA 37, PA.



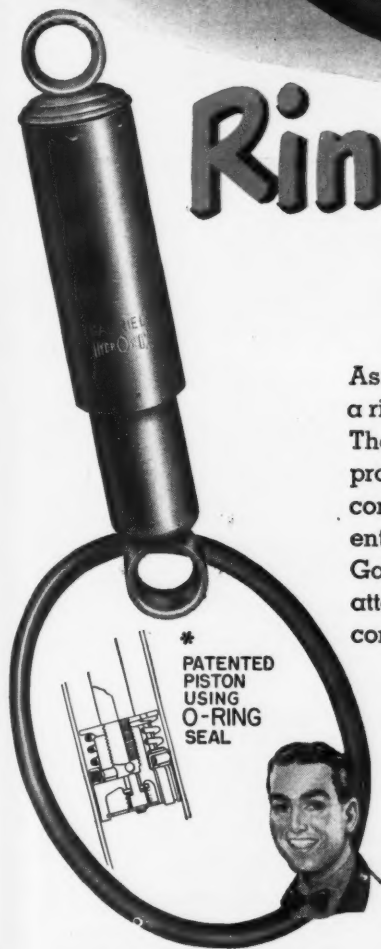
Ring Controlled...*

FOR A BETTER RIDE!

As every mechanic knows, it takes a ring to seal the power of a piston. That's why Gabriel Hydr-O-Shox provide long lasting uniform ride control. Gabriel's exclusive patented piston uses an O-ring seal! Gabriel's new valving principle attains an extra degree of gentle control...not harsh...not soft...

but positive. Gabriels have the power to control over the hardest ride conditions. Gabriels have more firsts in engineering design than any other direct acting shock absorber. It pays you to handle the leader.

THE GABRIEL COMPANY
Cleveland 3, Ohio



*Patents referred to herein are Gabriel Patent Nos. 2,369,007, 2,394,356, 2,396,227. Other Patents Pending.

GABRIEL

HYDR O SHOX

ANTENNAS • THERMOSTATS • COIL SPRINGS • FLEXIBLE TUBING • HELPER SPRINGS • METALUME & "CELASTIC"

Chilton's MOTOR AGE, MARCH, 1951



SKIL Polishers

Job-Proved

at Winnetka Ford Sales, Inc.

for the best polishing jobs!

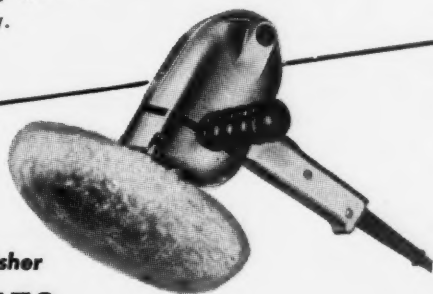




"My men don't get tired using this SKIL Polisher"
SKIL Polishers are easier to handle at any angle, in any position. The close-coupled design gives good balance. Control is easy... with no interference from strong "whip" or vibration. Light weight.

"SKIL Polishers get into small corners"
The design is compact, gets into hard to reach spots, eliminates much hand spotting. Count on SKIL Polishers for a good job and a thorough job... fast!

"We've needed no service on our SKIL Polisher"
SKIL Polishers are ruggedly built, full-powered... designed to give the best service in the automotive field. No costly shut-downs... no repair delays. Put time-saving, work-saving SKIL Polishers to work in your own jobs. Quickly pay for themselves in time and work savings. Call your SKIL Distributor now.



**SKIL Polisher
MODEL 570**

Compact, special duty. Recommended for small garages, service stations, and dealer service departments. Weight: 7 pounds; overall length: 9½ inches, not including pad. Pad: 7 inches. Speed: 1300 r.p.m. Left side handle.



**"Our SKIL Polisher does
the work better and faster"**

**says George Woodbury, Service Manager of the
WINNETKA FORD SALES, INC.**

555 Chestnut Street
Winnetka, Ill.

This SKIL Polisher is on the job 5 or 6 hours every day... saving time in polishing jobs, making the work easier, and doing better work too. SKIL Polishers are light in weight, powerful, perfectly balanced. Full 7-inch pad speeds work, makes it four times faster than hand polishing. Compact design. Economically priced. This is the polisher preferred by the men on the job and the service manager responsible for the job.



**SKIL Polisher
MODEL 307**

Standard duty. Recommended for heavier, longer duty in every type of auto servicing business. Rear grip and bail handles... covered with molded rubber sleeves. Side handle for optional use. Weight: 10½ pounds; overall length: 16¼ inches, not including pad; pad: 7 inches. Speed: 1400 r.p.m.

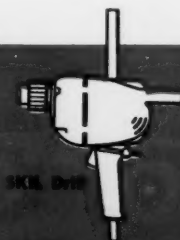
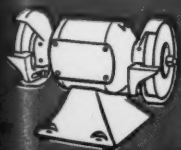
SKIL Polishers include the following equipment:

7-inch molded rubber backing pad; sponge rubber polishing pad; lambswool polishing bonnet; disc clamp wrench; and 3-wire cord and connector.

SKIL Products are made only by SKILSAW, INC.

5033 Elston Avenue, Chicago 30, Ill. • Factory branches in principal cities

In Canada: Skiltools, Ltd.,
66 Portland Street, Toronto, Ont.



SKIL
PORTABLE TOOLS

Willys Earnings Show Sharp Increase

Willys-Overland net earnings for the three months ended Dec. 31 were twenty times higher than for the same period in 1949. Net profit was more than \$1.5 million for the quarter, compared with \$75,205 for the same period a year previous. Net sales were up 110 per cent to \$42.9 million, compared with \$20.3 million for the same three months of 1949. The company currently has large military orders for

Jeeps and other vehicles, engines, and parts. At the end of last year, total backlog of unfilled military and civilian orders stood at \$173 million.

FRB Survey Reveals Car Ownership

The Federal Reserve Board has come up with some interesting results from its recent survey of car ownership among various income brackets. The study revealed that 75 per cent of all automobiles

are owned by families with less than \$5,000 annual income. Other results of the survey showed the following percentages of ownership in the various income brackets: Less than \$1,000, 5 per cent; \$1,000 to \$2,000, 11 per cent; \$2,000 to \$3,000, 19 per cent; \$3,000 to \$4,000, 23 per cent; \$4,000 to \$5,000, 16 per cent; \$5,000 to \$7,500, 16 per cent, and more than \$7,500, 10 per cent.

Technical Tape Corp. Opens Canadian Plant

Technical Tape Corporation's subsidiary, Canadian Technical Tape Ltd., has begun production in Montreal, Canada. Jack Dempsey, formerly assistant Sales Manager of the parent company, is now General Manager of the Canadian operation.



Recommended by *Men Who Know!*

The men who know the importance of quality replacement parts use and recommend G-H Front End Suspension Parts, Tie Rod Ends and King Bolt Sets. Each G-H replacement part is scientifically engineered, precision built of the finest materials to give guaranteed performance. Increased sales, better profits, more satisfied customers are yours with the complete G-H "Safety Parts" line. Ask the G-H man or write us.



HERSHEY METAL PRODUCTS, INC.
Derby, Connecticut



"You wanna check the ignition while I look things over here?"

Final Registration Count Verifies Record Year

Final tabulation of new passenger car registrations by R. L. Polk & Co., for 1950 show that the total for the year was 6,326,438 new cars licensed, or 1.488 million higher than 1949, the best previous year.

Self-Cleaning Plug Under Navy Test

A self-cleaning spark plug is reported under test for high compression airplane engines. A Pennsylvania manufacturer is reported to have developed a spark plug which will operate for 500 hours without maintenance or adjustment.

Build your business with satisfied customers.
Restore "new car" performance with the same checking
equipment used by the car manufacturers.



ALL

of the 19
car manufacturers
USE

John
BEAN

Steering Service Equipment

JOHN BEAN DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
LANSING 4, MICHIGAN



WHEEL ALIGNERS AND CORRECTION TOOLS • WHEEL BALANCERS AND BALANCING
TOOLS • WEIGHTS • STEAM CLEANERS • CAR WASHERS • HEADLIGHT TESTERS

It's New... It's Terrific

Thermoid
"Redi-Curv"
Radiator Hose



Flexible as a Spring!

Curves to Fit Any Car!

Makes Hose Installation a Snap!

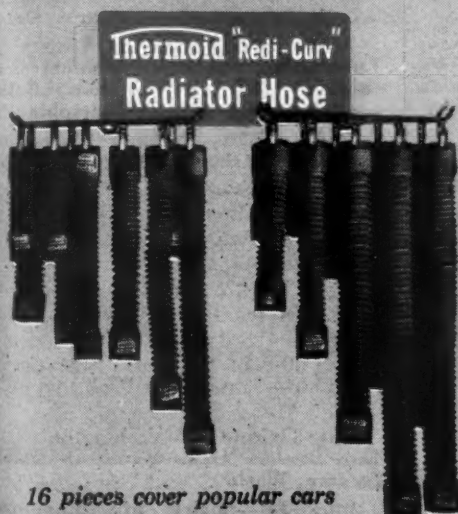
Here's the hose for those hard-to-fit connections! When you see it, try it, install it, you'll wonder why it's never been thought of before!

Here's what this hose means to You...

- Easier to put on because of tapered ends—installs in less time than curved hose.
- No skinned knuckles.
- Easy to fit lower radiator connections.
- Fewer pieces to stock.
- No cutting—no waste.

Here's what this hose means to the Car Owner...

- Absorbs motor vibration.
- Prevents radiator damage. Won't pull, strain or break connections.
- Wears longer.



16 pieces cover popular cars and trucks from 1936 to 1950.

Construction

Properly engineered by Thermoid to accurately fit all specified applications.

Specially compounded tube withstands anti-freeze and deterioration from radiator chemicals.

Coiled wire reinforcement adds strength, and flexibility; prevents collapse.

Durable cover withstands aging and cracking.

**Would You
Like to See a Sample
of this New Hose?**



Thermoid

Brake Linings, Clutch Facings, Fan Belts, Radiator Hose, Hydraulic Brake Parts and Fluid, Car Mats

Thermoid Company
Trenton, New Jersey

THERMOID COMPANY
Trenton, New Jersey

Yes, I'd like to see a sample of Thermoid's new "Redi-Curv" Hose

MY NAME.....

MY COMPANY.....

ADDRESS.....

CITY.....ZONE.....STATE.....

Trade Practice Rules Issued by FTC

While the vast majority of new car dealers will find little that is bothersome in the Trade Practice Rules covering installment sales and finance of motor vehicles, it is well to study the rules in detail. A summary of the "unfair" trade practices is as follows:

1. Misrepresentation by the seller of insurance coverage or rates or financing costs or rates.
2. Failure of the seller to furnish the buyer, before the sale is com-

pleted, with a written itemization which discloses the delivered price, including accessories or extras; the amounts to be credited as down payment and trade-in; the time balance owed to the seller and the amount and due date of each installment payment; the cost of the insurance and the coverage provided; and the financing charge.

3. The rules prohibit having the purchaser sign an installment sales contract or receipt in blank, which is to be filled in subsequently by the seller or financing institution, with the purpose or effect of deceiving the purchaser.

4. Use, by the seller or the financing institution acting individ-

ually or in collusion, of rate charts in a manner to mislead or deceive the purchaser as to the amount required to finance the unpaid balance of the contract.

5. Further, the rules prohibit the requirement by the seller or the financing institution, acting individually or in agreement, that the installment sale or financing of a motor vehicle shall be conditioned on the purchase of an insurance policy from a particular company when equivalent or better coverage by another company is available and the purchaser desires the policy of the other company.

Calendar of Coming Events

March 21-24—Pacific Automotive Show, Civic Auditorium, Seattle, Wash.

April 1-2—Canadian Automotive Wholesalers and Manufacturers Assn. Convention—Hotel King Edward—Toronto, Canada.

April 2—Louisiana Automobile Dealers Assn. The Roosevelt Hotel—New Orleans, La.

April 2-5—American Society of Mechanical Engineers (spring meeting) Atlanta Biltmore Hotel, Atlanta, Ga.

April 16-18—American Society of Lubrication Engineers (annual convention and lubrication show) Bellevue-Stratford Hotel—Philadelphia, Pa.

April 17-20—National Packaging Exposition, Atlantic City, N. J.

April 26-29—Southwest Automotive Show, Oklahoma City, Okla.

May 10-13—Southeast Automotive Show, Atlanta, Ga.

May 14-15—Missouri Automobile Dealers Assn. Hotel Jefferson, Saint Louis, Mo.

May 30-Sept. 9—World Transportation Fair—Santa Anita Park, Arcadia, Calif.

May 31-June 2—Washington State Auto Dealers Assn. Winthrop Hotel, Tacoma, Wash.

June 3-8—Society of Automotive Engineers (summer meeting) French Lick Springs Hotel, French Lick, Ind.

June 28-July 1—Michigan Automobile Dealers Assn. Mackinac Island, Mich.

Aug. 13-15—Society of Automotive Engineers, West Coast Meeting, Olympic Hotel, Seattle, Wash.

Sept. 16-18—28th Annual Convention—New York State Auto Dealers Assn. Sagamore Hotel, Bolton Landing, Lake George, N. Y.

Sept. 24-26—National Truck, Body Manufacturers & Distributors Assn. (annual convention) Haddon Hall, Atlantic City, N. J.

October 21-23—Florida Automobile Dealers Assn.—1951 Annual Convention—Tampa Terrace Hotel—Tampa, Fla.

October 29-30—Annual Convention, Ohio Automobile Dealers Assn. Dayton Biltmore Hotel, Dayton, Ohio.

1952

January 27-30—NADA Convention, Waldorf-Astoria Hotel, New York.

Work RIGHT
WITH
**CENTRAL
MIKE**

CENTRAL MIKE saves time and money for auto mechanics—that's why you'll find CENTRAL Certified Accuracy MICROMETERS in auto repair shops everywhere. The Central line is complete: there's a Central Micrometer or set of Micrometers for every need ... for every pocketbook. See your jobber or write for new Catalog 30.

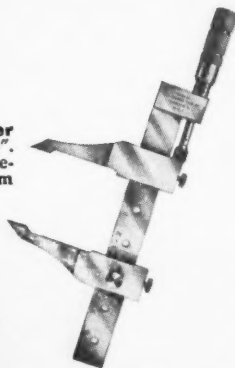


Set No. 745RL Outside Micrometers. Range: 0 to 4". Four micrometers with ratchet stops and locknuts; also standard test gages in deluxe plush-lined case.

Main Journal Micrometer No. 510MBM Range 0 to 5". Measures journals without removing crankshaft from engine.



Set No. 808 — Inside Micrometer. Range: 1½" to 8". Complete with extension handle in deluxe plush-lined case.



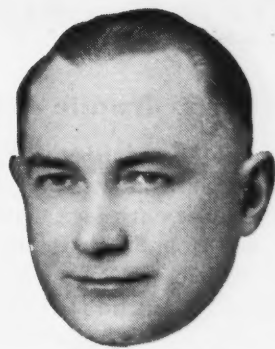
THE CENTRAL TOOL COMPANY

462 Wellington Ave.
Cranston 10, Rhode Island

LARGEST SELLING MICROMETERS IN THE
AUTOMOTIVE FIELD THROUGHOUT THE WORLD

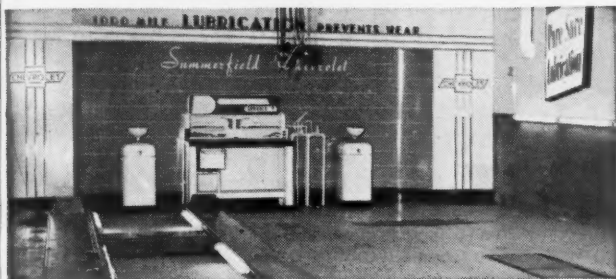
CENTRAL
Certified
Accuracy
MICROMETERS

Now he's got that "Sure Feeling"

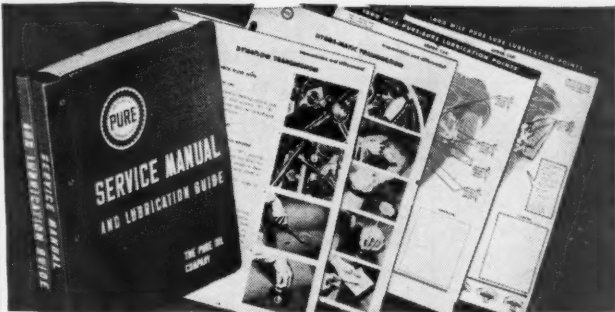


Loyed Cook, service manager, Summerfield Chevrolet Company, Flint, Michigan

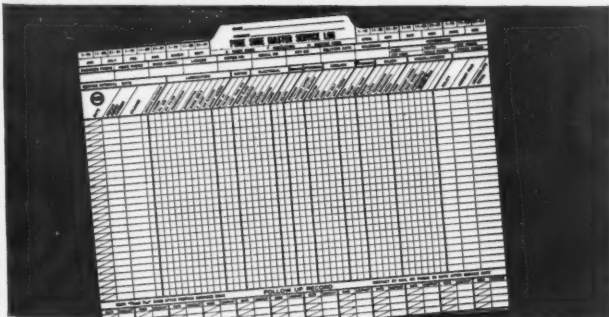
**Chevrolet dealer boosts service business 400%
with help of PURE OIL PLAN FOR CAR DEALERS!**



The Pure Oil Plan for Car Dealers includes practical help to a modern, streamlined service department, like this one at Summerfield Chevrolet.



It provides you Pure Oil's famous Service Manual, containing illustrated step-by-step procedures and easy-to-follow, under-chassis and under-hood lubrication charts.



It provides you practical business-building record forms and follow-up forms, designed by car dealers, to help sell more lubrication service jobs.

Be sure with Pure—

Pure Oil's complete car dealer line, headed by Purelube, the famous *sure* motor oil, includes high-quality oils for house branding, approved automatic transmission oils, gear and chassis lubricants, and TBA.



Summerfield Chevrolet Company of Flint, Michigan, knows the Pure Oil Plan for Car Dealers means *sure* help to more service sales. Read what Mr. A. E. Summerfield, Jr., assistant general manager, writes:

"In December, 1949, we opened our new Pure Oil One-Stop Lubrication Department—designed for us by The Pure Oil Company.

"Our modernized lubrication facilities, plus the use of premium Pure Oil products, have enabled us, through aggressive selling and Pure Oil's service record and follow-up system, to increase our lubrication volume some 400 per cent."

You can put the same complete program of sales tools and service helps to work for you simply by using Pure Oil products to put new *sureness* in your service. There is no extra charge.

For full details, see your Pure Oil salesman or phone your local Pure Oil office today.

THE PURE OIL COMPANY • General Offices: Chicago

NOTE: Purelube, the *sure* motor oil, is premium quality—*PLUS!* Since its introduction, it has met *all* requirements where "heavy-duty" oil is recommended by the car manufacturer.



Purelube

THE SURE MOTOR OIL

New Products Continued from Page 65

175. Hydraulic Jack

Auto Specialties Mfg. Co. announces a new "Bosco" 1¼-ton hydraulic curb jack, with a lifting range from 3⅞ in. to 18¼ in. The overall length of the jack is 24½ in. and it is said that the jack will handle any passenger car. New features of this jack include a

safety overload valve in the hydraulic system, a special engineered universal joint for operating the relief valve, and a double dust-cover over the pump which is claimed to eliminate torn bellows. The firm is also manufacturing a new line of hydraulic jacks. These jacks are available in 1½, 3, 5, 8 and 12-ton capacities.

*rebabbitted,
reconditioned . . .*

YOUR COMPLETE CONNECTING ROD SERVICE

Your Federal-Mogul jobber provides you with the nation's finest connecting rod service.

From stock, he supplies reconditioned or rebabbitted rods for outright sale, or on exchange basis. He has the bolts, nuts, shims and bushings you need.

And he's your source for top-quality Federal-Mogul precision insert bearings, for main, connecting rod or camshaft replacement.

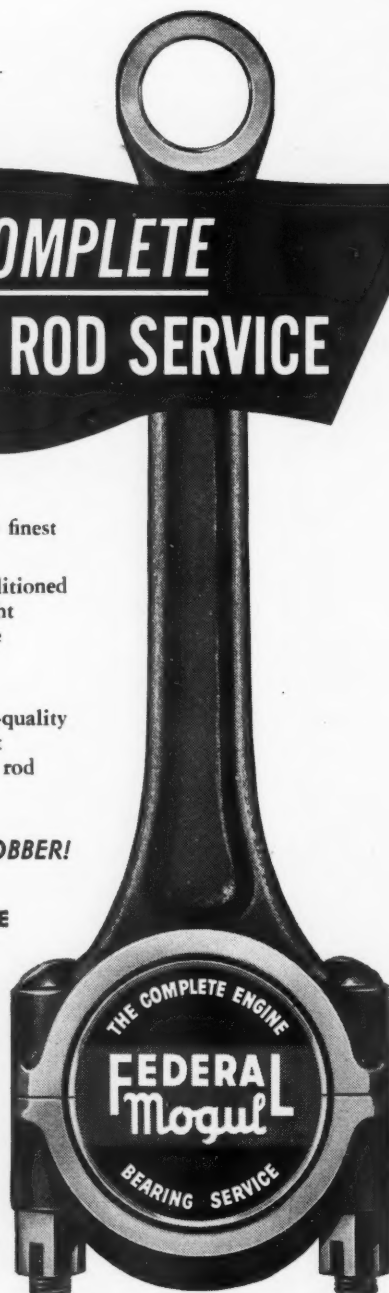
ASK YOUR FEDERAL-MOGUL JOBBER!

FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN

The Complete Line—more than 7,000 items: Engine Bearings (Main, Connecting Rod and Camshaft)—Bushings—Reconditioned Connecting Rods—Rebabbitted Connecting Rods—Connecting Rod Bolts and Nuts—V-Seam Piston Pin Bushings—Bearing Metals—Laminated Shims,



176. Revolving Dispenser

Littlefuse Inc. is offering a new revolving dispenser which holds up to 1800 fuses. A drum-shaped unit stands 12 inches high and is 11 inches in diameter. Sliding



channels dispense the boxes of fuses from either top or bottom. As it revolves, it makes possible the easy and quick selection and constant visual inventory.

177. Clutch Set

Accurate Parts Mfg. Co. is featuring its matched, mated and balanced clutch sets. These sets include a new Accurate Powerflex clutch plate in a factory-rebuilt Re-Nu clutch assembly. These sets are tested for release and sealed. Each Re-Nu assembly is completely rebuilt with a matched set of new pressure springs. All parts, including cover and pressure plate, are thoroughly cleaned, inspected and, if worn, replaced with new parts. Assembling operations are on a straight-line factory production basis, subject to inspections in every step, the manufacturer reports.

178. Bearing Pamphlet

The Anti-Friction Bearing Distributors Assn. is publishing a pamphlet containing all available information of every type of bearing. A file folder type of binder is being sent to each bearing user who requests it on company letterhead.

(Continued on page 154)

STOCK THE JACK THAT SELLS ITSELF!

THE SAGINAW RECIRCULATING-BALL BUMPER JACK—FITS ANY CAR— UNEXCELLED FOR QUALITY, SAFETY, EASE OF USE

All work and no play makes this jack a swell buy. Best of all, your customers *know* it the minute they *see* it operate.

This Saginaw Recirculating-Ball Bumper Jack is the safest, sturdiest bumper jack ever built. Check these features against any other jack your customers might have:

STRONG—pressed steel frame—solid—rugged. Sturdy, rigid base.

SAFE—handle can't spin when car is being lowered.

SMOOTH—rolling balls mate screw to nut—continuously reduce friction.

Let your customers see it, try it; they'll buy it. Call your United Motors distributor now.



A CHILD CAN OPERATE IT
Rolls up the weight easily,
safely—can't slip.

ALWAYS READY FOR USE
No fluid to leak—nothing to
get out of order.

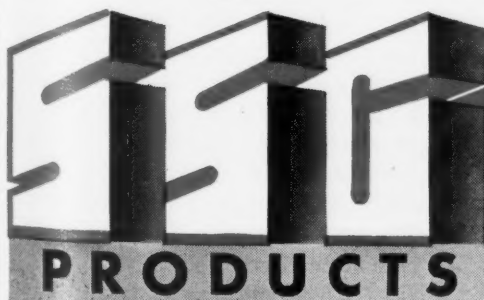


TESTED AND PROVED PRINCIPLE

The Saginaw Recirculating-Ball principle has been proved in over a quarter million bumper jacks and over a million automotive steering gears.



Saginaw Recirculating-Ball Bumper
Jacks are available through United
Motors distributors. Call yours today!



Saginaw

STEERING GEAR DIVISION
General Motors Corporation, Saginaw, Michigan

STEERING GEAR AND LINKAGES • TURN SIGNALS
PROPELLER SHAFTS • TRANSMISSION CONTROLS

New Products Continued from Page 152

179. Metal Filler

International Metal Polish Company, Inc. announces two new chemical products for automotive service. First of these, Blue Ribbon Nu Met-L, is a new type metallic alloy which is said to require no special tools nor heat in its use. It can be knifed like putty, or

brushed. It fills in and repairs dents, holes and rips in steel, aluminum, iron or other metals, as well as in glass, plastic, leather, fabric or wood. It is designed to replace solder for auto body repairs. The manufacturer states that Nu Met-L dries to a hard metal that can be sanded to a feather edge. The second product,

Nu Met-L Solvent, is for thinning and smoothing Nu Met-L. It is also for cleaning and degreasing in preparation for the use of Nu Met-L and for renewing scrap and dried material.

180. Balance Weights

Mid-Western Auto Parts is offering seven types of Snugl balance weights covering 51 sizes for passenger cars, trucks, buses, aircraft and motorcycles. The Snugl weight features a spring steel clip which is dove-tailed on the inside and outside of the lead, with the lip of the clip curved to fit curvature of rim flanges. Beveled edges allow easy application and are said to prevent the clip from gouging into the tire. The weights are designed to clear chrome trim rings and leave clearance when applied under metal or plastic white walls, covers or shields.

181. Front Stabilizer

Hellwig Products Company, Inc. has introduced a front stabilizer for coil spring cars. This stabilizer is made of alloy spring steel and is approximately the length and thickness of a spring leaf. One end of the stabilizer hooks over a coil in the spring and the other end, depending on the make



A DOUBLE-BARRELED MONEY-MAKER

that Builds Business

SERVICE MASTER . . . Boosts Profits

HYPRESSURE
Jenny

Combination
STEAM CLEANER
and COOLING
SYSTEM FLUSHER

It starts earning the day you put it on your floor, cleaning motors . . . chassis . . . white sidewall tires . . . preparing for undercoating . . . thawing radiators and doing scores of other profitable jobs.

It back-flushes radiators and motor blocks in one operation combining heat, chemicals, sudden but safe temperature changes and strong blast to give the best cooling system cleaning job known to science.

You can gross \$300 to \$500 extra business a month from cooling system cleaning alone!

It saves up to 40% of your mechanics' time by cleaning dirty equipment *before* repairs. It saves money and labor by cleaning lifts, pits, floors, driveways, lavatories, etc., 10 times faster than by hand labor.

Write for FREE Booklet and full information.
You'll be glad you did.

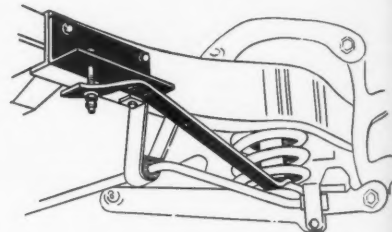
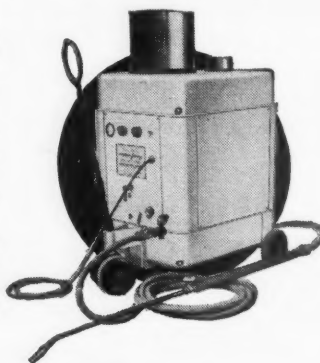
HYPRESSURE JENNY DIVISION

Homestead Valve Manufacturing Company

P.O. BOX 95

"Serving Since 1892"

CORAOPOLIS, PA.



or model of the car, attaches either by U-bolts to the bumper bar or to an angle-iron plate on the frame of the car. The stabilizer is designed to correct spring action, reduce tire wear and squall on sharp turns, smooth out rough pavement and road shocks, and eliminate bottoming and scraping. The manufacturer states that soft ride of the spring is retained.

(Continued on page 158)

Allied
A.P.C.
American
Brakeblok

BRAKE LINING - CLUTCH FACINGS

BALKAMP

PARTS FOR FORD
CHEVROLET - PLYMOUTH
AND ALL POPULAR CARS

Belden

WIRE AND CABLE

BRIDGEPORT

TIRE VALVES & ACCESSORIES

BRIGGS

SPRING REBUILDING

BROWN LIPE

GEAR BOXES

CELORON

SPRING LEADS

DETROIT

UNIVERSAL JOINTS

DITTMER

TRANSMISSION GLEAS

DUCKWORTH

SPRING COILINGS

ECHLIN

SPRINT PARTS

FEDERAL

BALL BEARINGS

Allied
GRAPHO

WATER PUMPS
PARTS, JACKING

MARTIN-SENOUR

AUTOMOTIVE TENSILES

MicroTest

SPRINGS - BALL SHAPES

Modac

SPRING BELTS, WIRE
RADIATOR HOSE

Monmouth

ENGINE BEARINGS
CLUTCH PLATES & PARTS
CHASSIS PARTS

New Britain

HAND TOOLS

Allied
PRECISION

PISTON RINGS

PURITAN

BRAKE FLUIDS, FLUSHING
FLUID - SHOCK ABSORBER
OIL - GASKET SEALS -
HORN ELECTRIC FLUID

RARITAN

ROLLER BEARINGS

Allied
RAYMOND

VALVE SPRINGS

Soundmaster

SPRINGS

STANDARD

CHASSIS DETAILING

Spicer

UNIVERSAL JOINTS

Thomson

TRANSMISSIONS

TRICO

VACUUM OPERATED
SAFETY PRODUCTS

UNITED

PUMP, PUMP
SPEEDOMETER AND
BRAKE CABLES

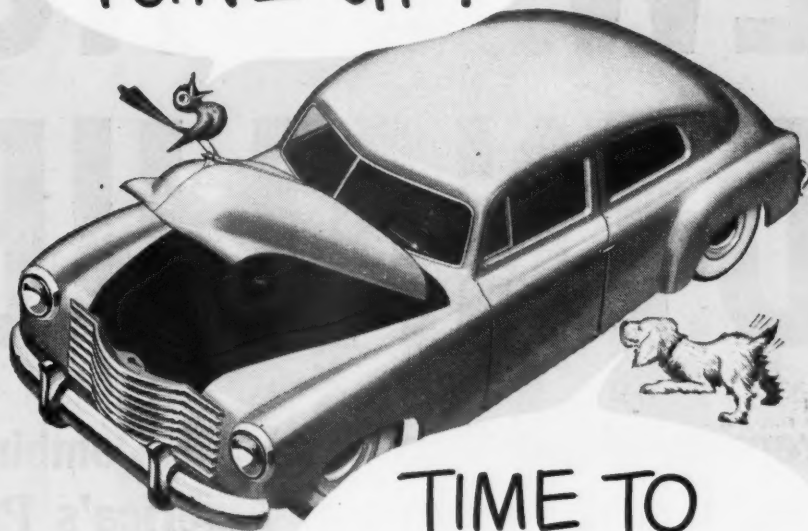
Allied
WISCONSIN

PISTONS - SLIDERS

ZOLLNER

PISTON EQUIPMENT

TIME TO
TUNE UP!



TIME TO
CHECK UP!

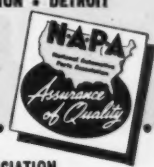
In **POST** and **Collier's**
N.A.P.A. is telling the world to
see you for Spring Service

Ask your NAPA Jobber—or use coupon below—to get a big, colorful NAPA Spring Service Poster! Posted prominently in your shop, this poster reminds every customer that he needs complete Spring Service . . . and that you are the man who can give it, as recommended by NAPA in both The Post and Collier's. And remember . . . for the parts you need to do the job right, call on your NAPA Jobber. He has the nationally known lines, for

cars and trucks of all makes, and the fast, co-operative service you're looking for. For every requirement . . . "Your NAPA Jobber is a Good Man to Know!"

NATIONAL AUTOMOTIVE PARTS ASSOCIATION • DETROIT

USE COUPON to
get your NAPA Poster!



.....
 NATIONAL AUTOMOTIVE PARTS ASSOCIATION
 Detroit 1, Michigan
 Please ask my NAPA Jobber to bring me an NAPA
 Spring Service Poster.

 COMPANY.....

 ADDRESS.....

 CITY.....STATE.....

N.A.P.A.
*is the largest Independent Parts
Organization in the Industry!*

ANNOUNCING NEW SUNOCO DYNALUBE

NEW Premium Heavy Duty Motor Oil Combines in a Single Oil All the Finest Features of America's Premium Motor Oils... Actually Improves the Condition of Most Engines

Any car...newest 1951 or earlier model...can now get the *finest engine protection* with Premium Heavy Duty NEW Sunoco Dynalube.

1. Its tough Heat-Resistant Body assures *long motor oil mileage*.
2. Fully Detergent-Dispersant. NEW Sunoco Dynalube cleans engines and keeps them clean. Road dust and contamination from normal combustion are held in harmless suspension until oil is drained at the regular interval.
3. Free-Flowing and Metal-Clinging qualities of

this new oil help engines deliver top performance longer.

4. It's both Anti-Rust and Anti-Acid—NEW Sunoco Dynalube counteracts two of the greatest causes of wear on piston rings and cylinder walls in any engine.
5. High FILM Strength and Ring-Sealing Action—insure longer lasting engine efficiency.

NEW Sunoco Dynalube is one of the very few oils that meets or exceeds car manufacturers' recommendations for *all* 1951 cars.



ROAD TESTED

Under the exacting supervision of the famous AAA four different standard make cars were road tested from Quebec to Key West and back. **AAA-CERTIFIED RESULTS:** Long Mileage, Engine Cleanliness, Long Engine Life. Cars using NEW Sunoco Dynalube were driven over 2,000 miles, on the average, before a drop of oil had to be added.

ON SALE ONLY AT SUNOCO STATIONS



AND SELECTED CAR DEALERS

New Products Continued from Page 154

182. Plastic Scraper

The Arjay Manufacturing Co. is producing the Sleetmaster plastic windshield scraper for distribution as a goodwill builder and advertising medium. This is an injection molded plastic windshield scraper in clear polystyrene, with a full three inch beveled cutting edge and a handle shaped

to fit the hand. The Sleetmaster is designed to remove ice, sleet, or snow from automobile windshields or windows without scratching the glass.

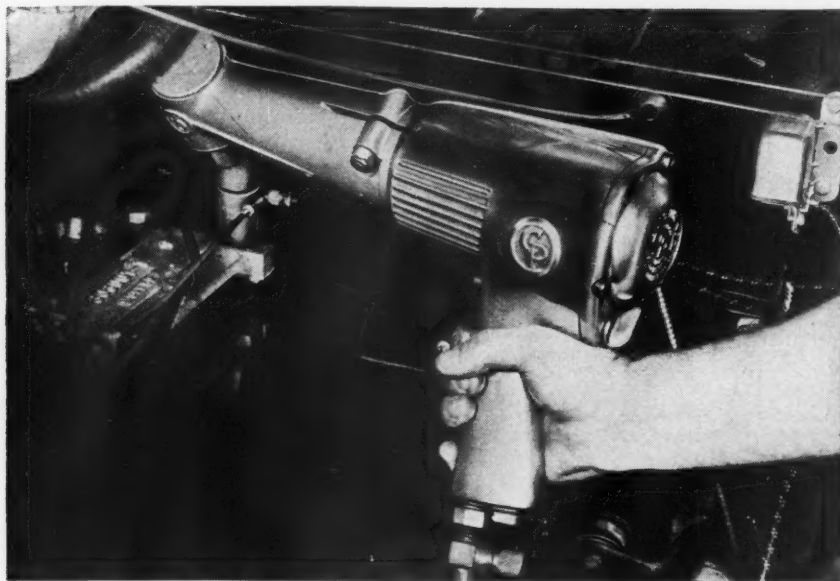
183. Car-Key Board

The Comfort Specialty Company has developed the Ke-Kon-Trol Board, designed for at-a-

glance control of used cars on hand by make and year; control of customer keys by cashiers and service managers; control of cars on hand being serviced, stored, demonstrated; control of cars the dealer is long or short on as well as control of tools and mechanics on hand. The Ke-Kon-Trol Board is supplied in a 19 in. by 24 in. size, made of special heavy green processed board and framed with aluminum mold. It has 42 hooks.

184. Micrometer

The Central Tool Company announces a new range micrometer for taking most measurements required in automotive repair work. The micrometer, Model 400 RM, has three interchangeable extensions. The new tool measures any part, from a pin to a large piston,



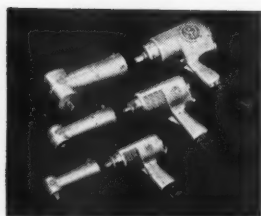
CP-750 Air Impact Wrench with detachable angle head makes quick work of running a cap screw in an awkward spot.

run nuts faster —to correct tightness

with CP Air Impact Wrenches whose impact action is controllable. Air consumption is low, the average being about that of a grease gun.

The only complete line of impact wrenches with detachable angle heads for running nuts, bolts and cap screws in close quarter locations, includes CP-730 to 1/2" bolt size; CP-750 to 5/8" bolt size; CP-770 to 1" bolt size.

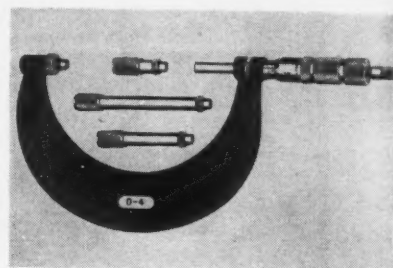
For the tougher jobs on heavy trucks, a still larger wrench, CP-365, capacity to 1 1/4" bolt size, is available in straight or angle head models.



Note short, compact design of wrenches when easily detachable angle heads are removed.



AUTOMOTIVE SERVICE EQUIPMENT • FENDER IRONS • ELECTRIC TOOLS
AIR IMPACT WRENCHES • AIR COMPRESSORS • PNEU-DRAULIC PUMPS

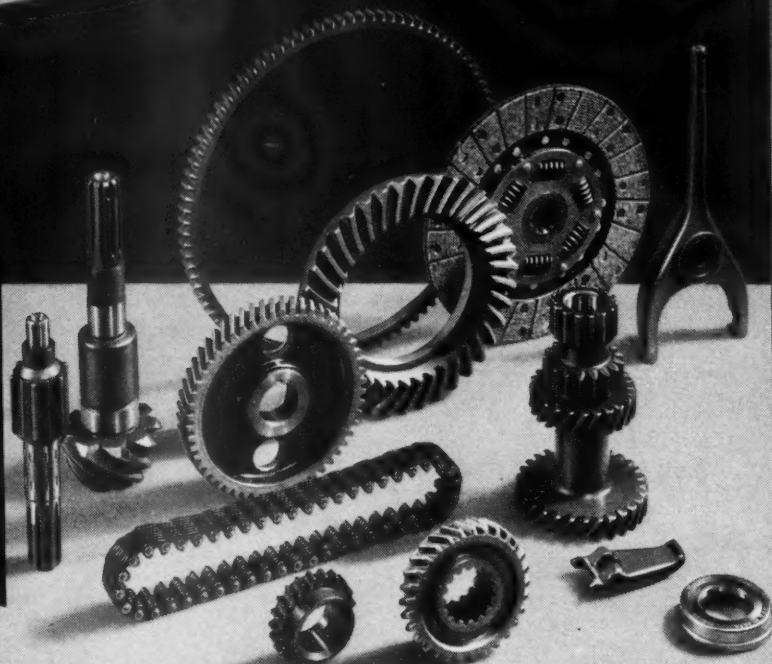


within 0 to 4 in. range. Each extension is individually adjustable to compensate for wear. A feature of the Model 400 RM is the crowned face of the anvil which eliminates "gagging" when adjusting the tool to take the measurement. The tool is furnished complete with ratchet stop and locknut.

(Continued on page 160)



You can stake your
reputation on
PERFECTION
"Certified Parts"



You'll find it good business to install **PERFECTION** Certified Replacement Parts. The low installation cost wins the favor of your customers, and the dependable performance of these products makes your customers real boosters for you.

Behind the parts constituting this great line are over 30 years of **PERFECTION** manufacturing achievement. This important "know-how", the use of the finest materials, heat treating under scientific control, precision accuracy and rigid inspections throughout production—all contribute to furthering the fine reputation accorded **PERFECTION** products.

There is a **PERFECTION** jobber near you. He carries a representative stock of these quality parts and is prepared to render prompt, efficient, friendly service. If you do not know his name, write us.



Perfection Gear Company *Harvey, Illinois*

PERFECTION PRODUCTS INCLUDE: Silent Timing Gears, Metal Timing Gears, Silent Timing Chains, Sprocket Gears, Transmission Gears and Parts, Differential Ring Gears and Pinions, Differential Cases and Parts, Fly Wheel Gears, Clutch Plates, Pressure Plates, Clutch Cover Assembly Parts, Clutch Forks and Parts, Clutch Throwout Bearings, Clutch Rebuilders.

New Products Continued from Page 158

185. Car-Top Sign Carrier

The Wesbar Stamping Corporation announces a new Ad-Sign Carrier designed to securely carry advertising signs on metal car tops at all speeds. The carrier is constructed of steel channel especially formed for the purpose, with steel uprights to which

the sign is attached with bolts and wing nuts furnished with each carrier. The carrier is secured to the metal car tops by six large vacuum cups and four insulated steel eave rail hooks.

186. Hot Rod Pistons

Sterling Aluminum Products Inc. is now manufacturing Hot

Rod pistons, designed for souping up engines. Wings of steel are firmly imbedded in the head section of this aluminum piston to give dual expansion control. The piston is furnished in a 3 5/16 std. size only, and uses rings the same as the set available for Kaiser-Frazer. Furnished with the piston is a .750 diameter pin of the tapered type.

187. Starting Booster

The Schauer Manufacturing Corp. is producing a new device designed to improve starting characteristics of automobiles. Known as the Schauer "Kar-Start," the device is housed in a small cylinder and has three leads for attaching to the automobile electric system. At the instant the car



starter is actuated, the "Kar-Start" provides an intense spark, which will start either cold or wet engines instantly, according to the manufacturer. After the engine has started, the "Kar-Start" is automatically disconnected from the system. The manufacturer states that it can be either permanently or temporarily installed.

188. New Program

The Bear Manufacturing Company has announced a new advertising program based on the theme "Care Will Save Tires." The 1951 Golden "Bear" program has been designed to help emphasize to the public the value of tires and that only by proper care can we keep the nation's defense workers on the roll. An important feature of all Bear's national advertising is the offer of a "Tire Saving Tips" booklet. A complete promotion (Continued on page 162)

THE MANBEE 54-K Challenges them ALL

Just read what
the 54-K does

Checks Camber, Caster and KING Pin Inclination on anything with wheels LARGE or small.

Gives direct readings, with bearings and knee-action parts in true running position — unaffected by wheel or tire runout.

Shows when you are correcting right and exactly how far to go.

Furnished with complete Alignment Machine for any size of shop.

The WHAT
and WHY
of
WHEEL
ALIGNMENT

Send for this
FREE booklet.



WHO'S GETTING YOUR SHARE

of Extra-Profit Alignment Service? Low pressure tires, high speeds and knee action are increasing the demand for Wheel Alignment when other services are declining. The average shop that does not have alignment equipment pays for a MANBEE Unit every 90 days in lost profit! Just give us a chance to back up this statement!

There's a MANBEE Alignment Unit for every size of shop and every space condition — from Dyn-A-Liner Rack, Pit and Hoist Alignment Machines to the famous MANBEE 705.

Instructions in your shop guarantee you can use MANBEE Equipment and start ringing your cash register the day it's installed.

Investigate today! Ask your MANBEE Jobber or mail the coupon — NOW.

MANBEE EQUIPMENT DIVISION

185-A N. Wabash Ave., Chicago 1, Ill.

Please send me the booklet, "The WHAT and WHY of Wheel Alignment" and information about instruction in my shop, with guarantee that we can operate MANBEE Equipment to our satisfaction.

Name _____ Title _____
Company _____
Street _____
City _____ Zone _____ State _____

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless a deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

(28).

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL - Day Letter
NL - Night Letter
LC - Deferred Cable
NLT - Cable Night Letter
Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

CU104 PD=OAG GARY INDIANA= 27 1206P=

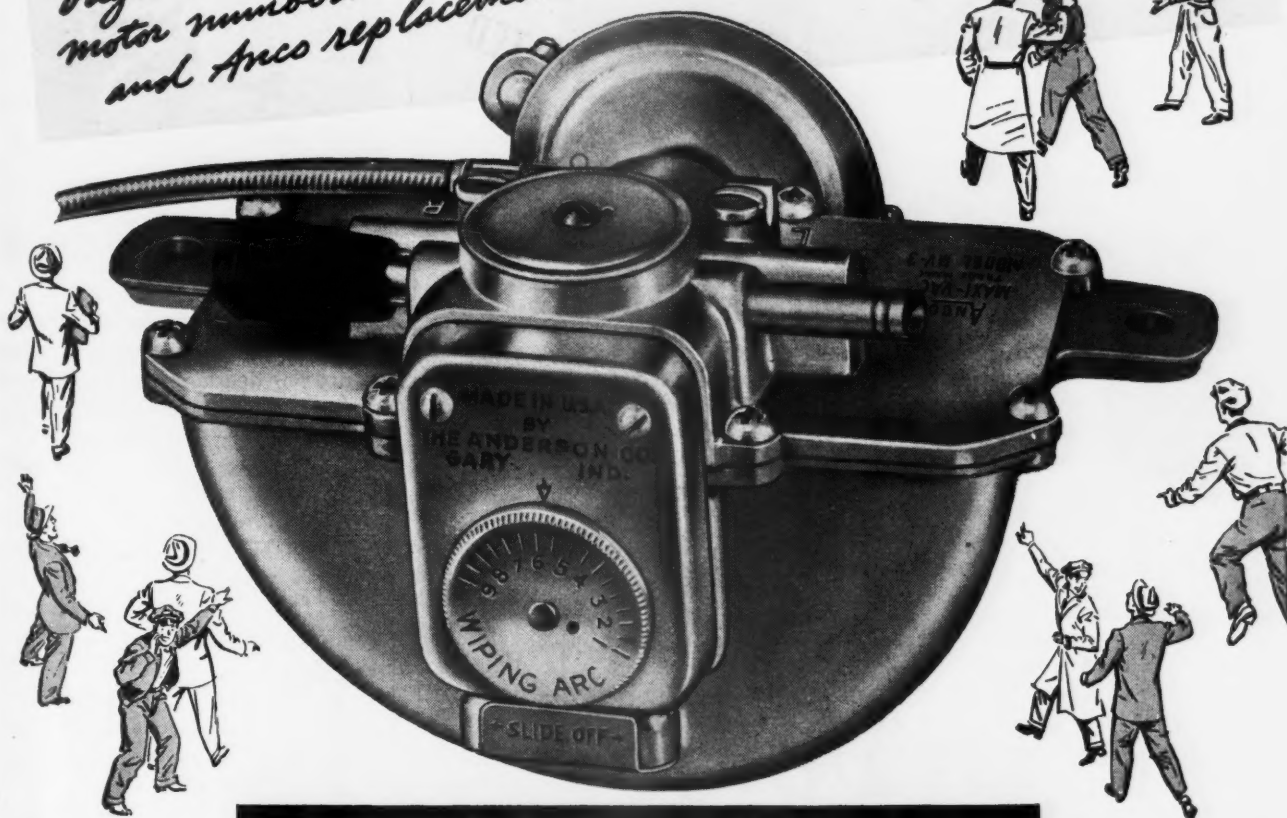
MR. DEALER:

NOW, ONLY SIX MODELS ANCO MOTORS GIVE COMPLETE REPLACEMENT SERVICE FOR ALL VACUUM WINDSHIELD WIPER MOTORS INCLUDING ALL CABLE LINKAGE TYPES, ALL BAR LINKAGE TYPES AND ALL DIRECT DRIVE TYPES MOTORS ON ALL 1935 AND LATER CARS. LOTS MORE POWER. LOTS LESS STALL. CONTROLLED WIPING ARC PREVENTS BLADE SLAP BY COMPENSATING FOR LINKAGE WEAR=

New catalog lists original equipment motor numbers and Anco replacements

JOHN W ANDERSON PRESIDENT

THE ANDERSON COMPANY GARY INDIANA



THE ANDERSON COMPANY

GARY, INDIANA

Makers of Accepted Automotive Products Since 1918

ANCO PATENTED
SAFETY PRODUCTS
PATENTS MAKE JOBS

QUALITY PROTECTED
UNDER
FAIR-TRADE LAWS

New Products Continued from Page 160

package of dealer newspaper mats, postcards, mailing folders, children's coloring books, shop pennants, window posters and so forth are available to the dealer.

189. Jack Stand

The Dalton Foundries, Inc., announce the Big Boy Adjustable Jack Stand, a heavily built ad-

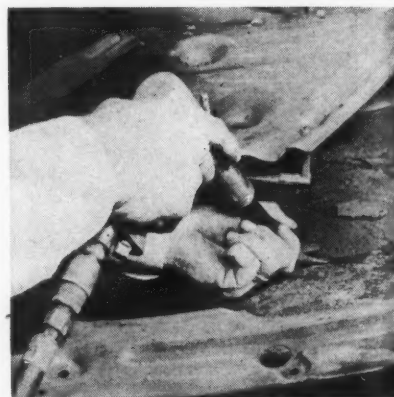
justable stand which is of all steel welded construction. The closed height is 11 $\frac{3}{4}$ in. and the extended height is 19 in. A $\frac{1}{2}$ in. diameter steel pin is firmly attached to the stand by means of a brass chain, and is always accessible when needed. The Big Boy Jack Stand is available in a three ton capacity.

190. Drill Press

The Atlas Press Company is featuring a new Atlas 15 in. drill press. It is available in high and slow speeds, with a choice of full-tilting or production oil table, Jacobs chuck or No. 1 or No. 2 Morse taper spindle. The press features the new floating drive, which consists of a six-splined spindle and a steel drive sleeve that floats on two large deep-grooved ball bearings for longer service life. It is claimed to transmit turning power only to the spindle—all belt pull is taken to the head through the drive unit.

191. Power-Scraper

Marflow Tool Division of Steelcrafters Company is manufacturing a tool for use with their Air Quick Auto Body Set. Known as the Goo Scraper, this is used with



the Air Quick Pneumatic Hammer to peel off undercoating and other silencer or deadener without panel damage. The Goo Scraper is made from hand-forged tool steel.

(Continued on page 163)



Check ✓

MOTOR MOUNTS WITH EVERY CLUTCH JOB



Armor-Flex MOTOR MOUNTS ARE BRASS PLATED

Armor-Flex Motor Mounts are designed to hold up under stress and strain. They're made with BRASS-PLATED METAL which gives permanent adhesion of rubber to steel. Play it safe! Check motor mounts with every clutch job. Replace defective mounts with Armor-Flex for complete customer satisfaction.

Doan
MANUFACTURING CORP.
CLEVELAND 12, OHIO

New Products

Continued from Page 162

192. One Piece Jacks

The Woodworth Specialties Corporation announces the 1951 model Easylift and Dependable Jacks. These one-piece jacks have two inches higher lift than older models and have a lifting hook that extends over two inches out from the screw, far enough to accommodate the deep channeled bumpers on some late model cars. The construction of the jack embodies the attached base and swinging handle which makes the jacks always assembled with no loose parts.

193. Convertible Top

Atlas International Company is marketing a new, ready-to-install convertible top. The top has triple Broad-Vue rear windows with narrow corner support and rounded corner sections, which eliminate blind spots. These windows, made of Bakelite "Glastic," are claimed to remain crystal clear, flexible, and fold up or down with the top. They are said to resist cracking and breaking. The convertible top, called the Flying Scout, features a rear panel which zips with heavy duty Talon fasteners. The top is constructed of processed 3-ply fabric and rubber.

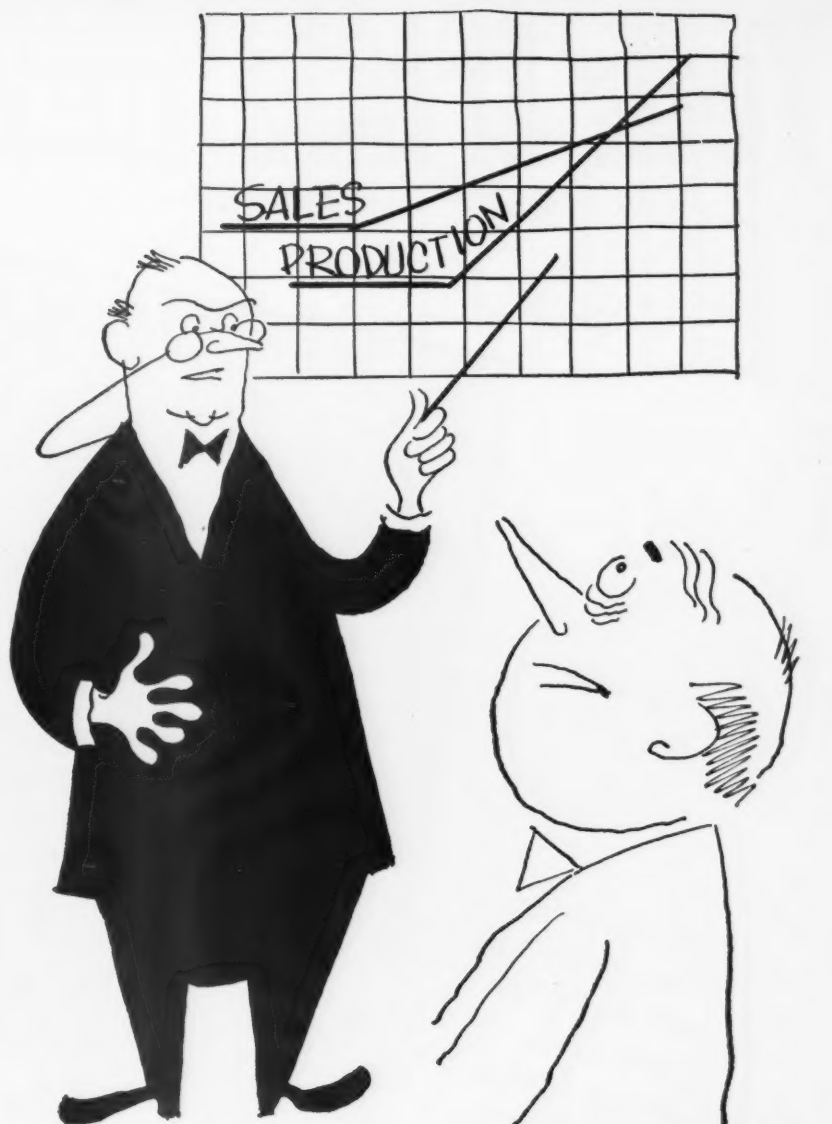
194. Conversion Kit

Superior Screw & Mfg. Co., Inc., is marketing manual choke conversion kits featuring a patented spring loaded device that is designed to provide proper carburetor mixture when accelerating the motor. The manufacturer states that this unit can be installed without removing the carburetors. It is available in six different models to fit most automatic choke controlled carburetors.

195. Gaskets

The Victor Mfg. & Gasket Company announces that Victor gaskets are now manufactured by a

(Continued on page 166)



"Let's face it, Jones. Let's get the **FACTS**"

Know **how many** new cars are being sold each month—**where**—and **when**. Use facts to determine sales quotas, to gauge service potentials, to plan profitable manufacturing programs. Use **POLK NEW CAR AND TRUCK SALES REPORTS**, compiled from official license registrations. Now greatly expanded in usefulness, they give sales totals **by makes, by models, by states, by price classes**, compared with previous year's sales. Know... at all times... your market potentials. Write for details on this new, comprehensive service.

also

planned direct mail promotions
mailing lists
consumer research
city directories

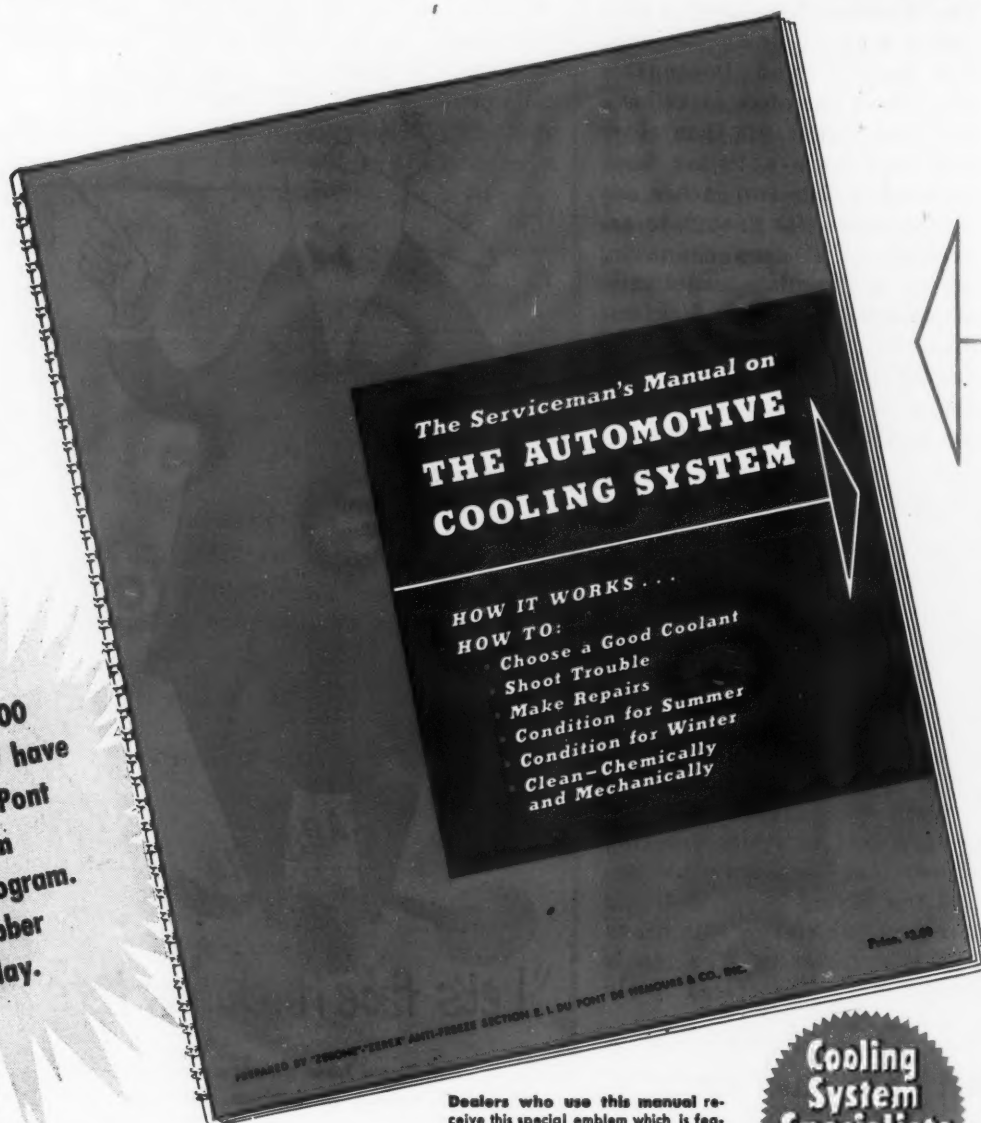
Serving the automotive industry and its dealers since 1923

R.L. POLK & CO.

MOTOR STATISTICAL DIVISION
431 HOWARD STREET,
DETROIT 31, MICHIGAN

Your trade must make

More than 20,000
dealers already have
joined the Du Pont
Cooling System
Specialists Program.
Ask your jobber
about it today.



Dealers who use this manual receive this special emblem which is featured in "Zerone"-"Zerex" advertising.

**Cooling
System
Specialists**

CARE WILL SAVE YOUR CAR

It helps you sell more of all four...

1. COOLING SYSTEM SERVICE. You can get good money for cooling system service the year round. But that's only part of the story. There's a world of business under the hood and cooling system service opens the door to it. For example...

2. PARTS. Once under the hood you'll spot the need for replacements that mean better motoring for your trade and good profits for you. Here's your chance to step up sales of—hose, fan belts, thermostats, spark plugs, oil filters and many other items.

3. CHEMICALS. Using the handy "Zerone"-"Zerex" sales tool that comes with the "Specialists Program" will increase your sales of chemical cleaning jobs. And a check for leaks will often lead to a sale of cooling system sealer.

4. ANTI-FREEZE. When you work the Cooling System Specialists plan, your anti-freeze sales go up, too. That's because it helps you do a better all-round job of sales and service. To your customers you become "cooling system headquarters."

*... and it's a quick way to make
experts out of new employees!*

their cars L-A-S-T !

**This Du Pont manual shows you how to keep
the vital cooling system in top operating shape
... and make good profits, too!**

THE Du Pont Cooling System Manual is just one of the important features of the "Zerone"- "Zerex" Cooling System Specialists Program—and what a feature it is! Big diagrams and simple, easy-to-understand text explain the entire cooling system in a way that even your greenest employee can understand. With it you'll be able to spot your customers' cooling system troubles faster—speed up repairs—and *sell* cooling system service

the year round at a good profit to you.

Why not prepare now to capitalize on your customers' real needs? At today's higher car prices—and with the possibility of new cars getting scarce—your customers are open to suggestions on ways to make their cars last. Cooling system service is one of those ways—and a profitable one, too! Ask your jobber today for details on the Du Pont Cooling System Specialists Program!



"ZERONE" Every year more motorists buy "Zerone" anti-freeze than any other brand. Order this fast seller now, to make sure to get your share of the growing market for standard-priced anti-freeze.



**BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY**

"ZEREX" "Zerex" anti-rust anti-freeze is the new favorite among premium priced anti-freezes. When you stock both "Zerone" and "Zerex," you're in a position to meet the needs of all your customers. *REG. U.S. PAT. OFF.

New Products Continued from Page 163

new process which increases flexibility, adds resiliency, and improves uniformity. The new gasket material is baked electronically rather than by the conventional method of curing with steam. With the electronic curing method, the natural liveliness of the raw cork is said to be retained and the gaskets have greater resiliency

necessary for longer lasting, tighter sealing.

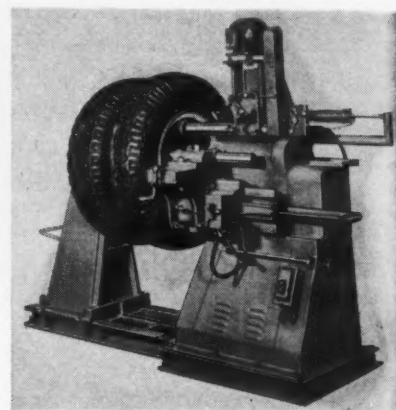
196. Drill Converter

The Herbrand Division of the Bingham-Herbrand Corp. has developed a new attachment to convert any 1/4 inch drill into an automatic nut running and screwdriving tool. Called the Drill-O-Driver,

it employs an automatic friction drive to permit the operator to regulate speed and force. It is said to increase the efficiency and utility of any electric or pneumatic drill as a driver of oil pen bolts, head nuts, machine and cap screws, sheet metal screws and wood screws. The Dril-O-Driver fastens into drill chuck in the same manner as an ordinary bit. The motor can be kept running as the Dril-O-Driver is disengaged until the pressure is applied. The drive automatically cuts out when the bolt or screw is driven home.

197. Brake Drum Lathe

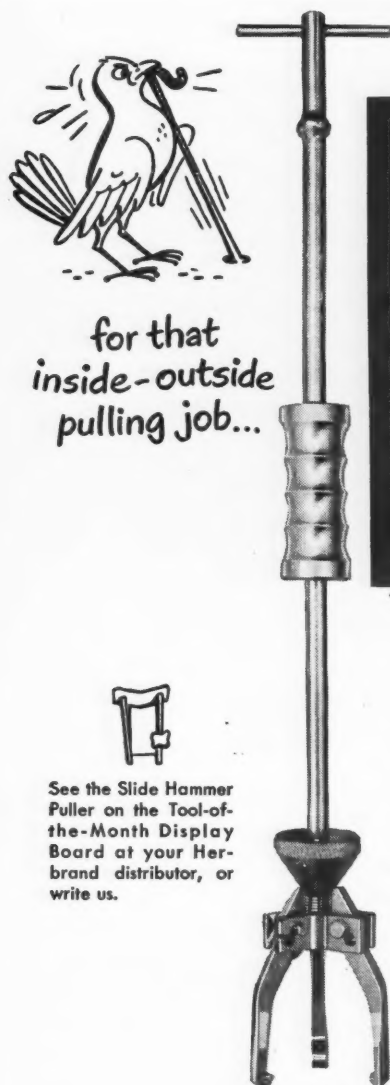
Lempco Products, Inc., announce their "DH Special" Brake Drum Lathe with outboard support. Manufacturers state this lathe can cut and grind at the same time to a



full 16 in. in depth and diameter to 40 in. The feed on both the grinding wheel and tool are achieved by independent hydraulic systems. The feed of the cutter is infinitely variable from 0 to rapid traverse permitting a cut which is said to be fine enough to put the drum back in service without a finish grind.

198. Window Screen

The Hinson Mfg. Co. announces its combination winter front and insect screen. In cold weather it is a winter front that will open the thermostat quicker and help the heater maintain a more comfortable temperature. It can be adjusted to provide the amount of radiator coverage desired. In the spring the winter front is snapped off and it becomes a bug screen.



for that
inside-outside
pulling job...



See the Slide Hammer Puller on the Tool-of-the-Month Display Board at your Herbrand distributor, or write us.

Herbrand's TOOL-OF-THE-MONTH SLIDE HAMMER PULLER

This new no-pinch puller provides a much wider range of pulling for more kinds of jobs with only the usual number of parts.

It is almost impossible to pinch hand because of the special shape of the forged stop on the puller shaft. It fits snugly into countersink in slide hammer and pushes skin out of the hammer's way.

Note the two position holes in 3-way yoke for jaw settings. They give wider range of pulling with greater strength and safety. External gripping capacity from 0" to 7", internal from 1 1/4" to 7". Special push-pull holding pins make it easy to change jaws quickly from inside to outside pulling position or vice versa.

NOTE: Other attachments available. Write for new catalog sheet.

Mechanic's Net \$14.50



Herbrand Tools Fremont 7, Ohio



"I Fell Flat on my Back..."



... but I got up
FIGHTING"



"There were so many half-filled paint cans around our refinishing shop, we didn't have enough places to keep them. One day I tripped on a quart can of lacquer and fell flat on my back ... but I got up fighting mad! I made up my mind to do something about it and I cleaned out the shop good. It wasn't long, though, before we were back in the same old mess and confusion. We had partly filled cans of every conceivable color from the time of Moses.

"I got to figuring it was about time to ask for advice. We work in a small town and our nearest Jobber is 74 miles away, but he came over to see us without wasting time when I told him we needed help. He recommended the R-M Tintometer color matching system, and we put it into operation immediately. It quickly solved our problems in more ways than we had expected. Now, we don't waste paint, because we prepare *only* the amount needed to complete the job at hand.

RINSHED MASON CO.

5935 MILFORD AVE.
DETROIT 10, MICH.
1244 N. LEMON ST.
ANAHEIM, CALIF.



"Our shop is neat and our paint inventory is really under control. We stock only 26 base and tinting colors in R-M Permax and the same number in R-M Lacquer, plus, of course, some high-volume blacks and other R-M factory packaged colors. Our Jobber doesn't have to break his neck to get a special color out to us when we want it! We make our own on the highly accurate Tintometer ... any color we want in FIVE MINUTES! Our customers sure like the kind of service we're giving now!"

Manufacturers of passenger and commercial car lacquers • enamels • primers • surfacers • tinting colors • reducers • removers • rubbing compounds, etc.

**CHECK
UP!**



**JOT
DOWN!**



during **G-E'S SPRING**

Magazine, Television and Radio Advertising

MARCH 1 TO APRIL 30

JUST two things to do to ring up extra sales during General Electric's Spring Auto Lamp Promotion! First, check lights of every car left for Spring changeover. Then jot down the burnouts on the handy G-E snap-on memo card. In an actual sales test during last Fall's Changeover period, 131 dealers who took these two steps found that one out of three cars needed a lamp replacement.

This spring your sales possibilities are bigger than ever. General Electric's powerful advertising story—describing advantages of the G-E "All-Glass" headlamp—will build greater preference than ever for G-E auto lamps. And there's a whole new array of G-E point-of-sale aids to help make the Promotion pay off at *your* cash register!



General Electric auto lamp advertising will appear in the Post, Colliers, Popular Science, and Popular Mechanics. Also on the Fred Waring TV Show and spot radio.

**Remember: One car out of 3
needs a lamp replacement!**



...and you'll
RING UP!



AUTO LAMP DRIVE!

Free Display Material... Everything You Need!



Point-of-sale materials include lampholder, posters, lamp guide, snap-on memo card, sales booklet. All free. And ask about our aiming screen for \$2.75.

GENERAL  **ELECTRIC**

A CHILTON Publication



MOTOR AGE

EXECUTIVE OFFICES: CHESTNUT AND FIFTY-SIXTH STREETS · PHILADELPHIA 39, PA.

Dear Motor Age Reader:

Your opinion as a reader of MOTOR AGE is most valuable to us. It will guide the Editors in preparing the magazine and aids them in digging out the information you want!

To help us, we need your advice now. Please check the two simple questions given here and mail this letter to my personal attention in the enclosed prepaid return envelope, today.

1. WHICH OF THE FOLLOWING FEATURES DO YOU READ

READ

Regularly

2. HOW CAN WE MAKE MOTOR AGE MORE INTERESTING AND MORE VALUABLE TO YOU?

Send it weekly!

"SEND IT WEEKLY!"

The editors of MOTOR AGE never stop making a continuing study of readership of MOTOR AGE.

Every month they send questionnaires to 1,000 paid subscribers asking the two questions shown above.

This is not an advertising stunt. It is a conscientious effort on the part of Frank Tighe and his staff to know *all the time* what their readers read most and prefer.

Occasionally, though, there's one the advertising department can't overlook.

The subscriber who in answer to the question "How can we make MOTOR AGE more interesting and more valuable to you?" said "SEND IT WEEKLY" expressed in an advertising headline the more homespun "It's OK as it is," "Give us more of the same," etc., which comprise such a large proportion of all the answers every month.

MOTOR AGE readers like MOTOR AGE. That's why they renew their subscriptions in a higher percentage than the readers of any other monthly automotive service magazine.

Reader interest helps make advertising pay in—

MOTOR AGE

Is one of 4 CHILTON Automotive Publications—the others are:

COMMERCIAL CAR JOURNAL

AUTOMOTIVE INDUSTRIES

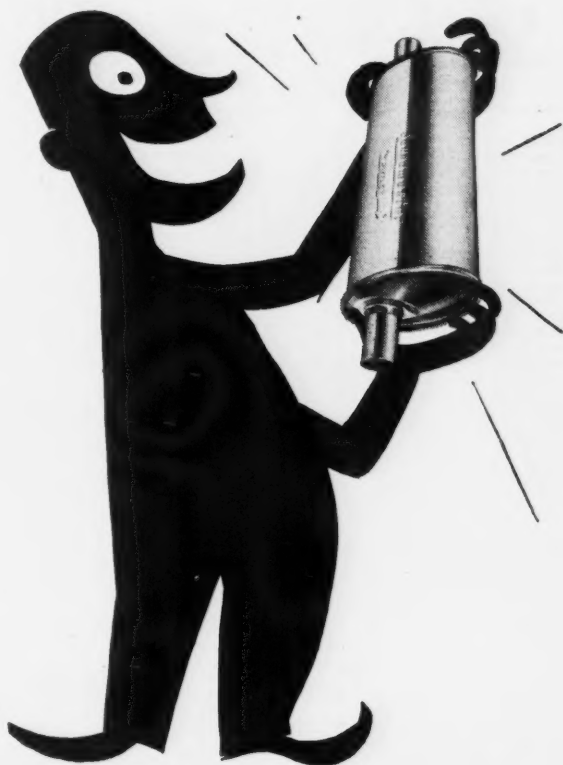
CHILTON Automotive BUYER'S GUIDE

Come to Automotive Headquarters

WHEN THE
MUFFLER GOES **BAD**

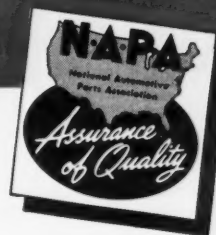


MAKE SURE THE
REPLACEMENT IS **GOOD**



INSTALL A
Soundmaster
MUFFLER

● When a new muffler is needed, install one that *fits* . . . one that will give the greatest *service*. Soundmaster is the quality line that gives the most of both. Soundmaster standards for noise control, endurance and low back pressure meet in full the most exacting requirements of each vehicle. And, above all, Soundmaster **FIT**—engineered for each particular car—means **F**ast **I**nstallation **T**ime . . . more profit for you!

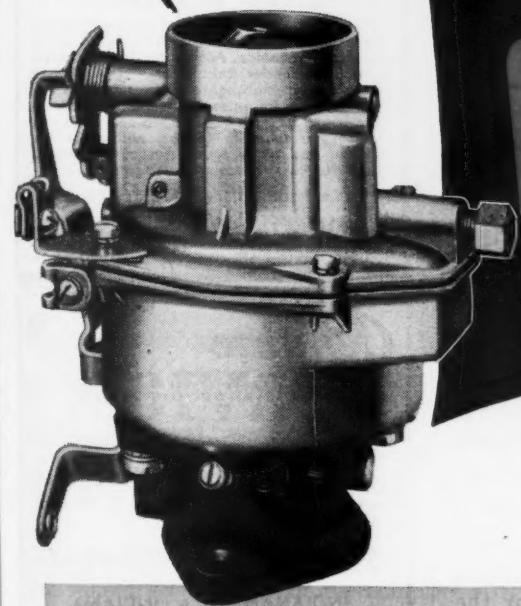


DEKOVEN MANUFACTURING COMPANY • RACINE, WISCONSIN

Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of February 26, 1951.
State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK					CROSLEY (Continued)					HUDSON (Continued)					PACKARD (Continued)				
Special 40					Sta. Wagon	849	67	916	1403	Hornet					300-2402				
Bus. Coupe, 2d.	1680	123	1803		Super Sports	859	66	925		Club Cpe.	2307	170	2477		Tour. Sedan	2716	179	2895	3930
Spt. Coupe, 2d.	1730	126	1856		Sup. Sed., DeL.	883	68	951		Sedan, 4d.	2330	172	2502		400-2406				
Sedan, 2d.	1760	128	1888		Sup. Conv.	886	68	954		Conv. Brghm.	2320	199	3019		Tour. Sedan	3263	212	3495	4115
Sed. DeL., 2d.	1800	131	1931	3615	Sup. Sta. Wgn.	914	70	984											
Sedan, 4d.	1810	131	1941	3605						KAISER									
Sed. DeL., 4d.	1850	133	1983	3680						Special									
Sed. Rivra, 2d.	1885	135	2020		DE SOTO					Bus. Coupe	1784	115	1899		PLYMOUTH:				
Conv. Cpe., 2d.	2175	150	2325		De Luxe					Club Coupe	1917	122	2039		Concord P22				
Super 50					Club Coupe	1871	105	1976	3475	Sedan, 2d.	1936	123	2059		Coupe, 3p.	1295	76	1371	2925
Sed. DeL., 2d.	1896	145	2041	3685	Sedan, 4d.	1881	105	1986	3570	Sedan, 4d.	1963	126	2109	3150	Sedan, 2d.	1410	82	1492	2975
Sed. Rivra, 2d.	1988	151	2139	3785	Carry-All	2075	116	2191	3685	Traveler, 2d.	2031	128	2159		Suburban	1740	100	1840	3130
Sed. DeL., 4d.	1989	150	2139	3755	Sedan, 8p.	2535	141	2676	4045	Traveler, 4d.	2078	131	2209		Savoy	1840	106	1946	3190
Sed. Rivra, 4d.	2058	154	2212	3845	Custom					DeLuxe					Cambridge				
Conv. Cpe., 2d.	2308	166	2476	3965	Club Coupe	2042	114	2155	3585	Bus. Coupe	1936	123	2059		P23				
Est. Wagon, 4d.	2658	188	2844	4100	Sedan, 4d, 6p.	2059	115	2174	3685	Sedan, 2d.	2040	129	2169		Club Coupe	1435	84	1519	3065
R'dmaster 70					Sportman	2358	131	2489	3760	Club Coupe	2059	130	2189		Sedan, 4d.	1465	86	1551	3110
Rivra Cpe., 2d.	2568	196	2764	4240	Convertible	2443	135	2578	3940	Sedan, 4d.	2088	131	2219	3225	P23				
Conv. Cpe., 2d.	2673	201	2874	4335	St. Wgn. Steel	2574	143	2717	3960	Traveler, 2d.	2135	134	2269		Club Coupe	1515	88	1603	3080
Est. Wagon, 4d.	3203	230	3433	4470	Sedan, 8p.	2713	150	2863	4155	Traveler, 4d.	2183	136	2319		Sedan, 4d.	1540	89	1629	3115
					Suburban	3013	166	3179	4395						Conv. Ch. Cpe.	1875	107	1982	3300
										LINCOLN									
CADILLAC					DODGE					Coupe, 6p.	2350	179	2529	4140	PONTIAC				
Series 61					Wayfarer, D41					Spt. Sedan, 4d.	2395	181	2576	4180	Chief, 8				
Coupe, 2d.	2590	171	2761	3870	Coupe, 3p.	1825	86	1911	3125	Lido	2535	186	2721	4160	Bus. Coupe	1527	113	1640	3273
Sedan, 4d.	2690	176	2866	3890	Roadster, 3p.	1635	92	1727		Cosmopolitan					Sed. Coupe	1644	119	1763	3303
Series 62					Sedan, 2d.				3215	Coupe	2975	212	3187	4420	Sedan, 2d.	1644	119	1763	3328
Coupe	2960	190	3150	4050	Meadowb'k D42					Spt. Sedan	3025	215	3240	4490	Sedan, 4d.	1692	121	1813	3363
Sedan	3040	194	3234	4040	Sedan	1750	98	1848	3415	Capri	3185	221	3406	4440	DeL. Sed. Cpe.	1734	124	1858	3318
Cpe. de Ville	3315	208	3523	4120	Coronet D42					Convertible, 6p.	3700	250	3950	4690	DeL. Sed., 2d.	1734	124	1858	3333
Conv. Coupe	3440	214	3654	4340	Club Coupe	1812	102	1914	3320					DeL. Sed., 4d.	1782	126	1908	3373	
Series 80					Sedan, 4d.	1825	102	1927	3415	MERCURY					Catalina, DeL.	1935	134	2069	3428
Sedan, 4d.	3565	132	3797	4200	Conv. Coupe	2206	123	2329	3580	Coupe, 72A	1745	130	1875	3395	Cat. Sup. DeL.	1990	137	2127	3433
Series 75					Sedan, 8p.	2479	138	2617		Coupe, 72B	1845	135	1980	3485	DeL. Conv. Cpe.	2050	140	2190	3568
Sedan, 8p, 4d.	4480	290	4770	4690	Diplomat					Spt. Sedan	1895	137	2032	3550	Streaml. 8				
Imperial	4660	299	4959	4710	Sierra					Monterey	2005	141	2146	3530	Sed. Cpe.	1624	118	1742	3343
										Monterey	2015	142	2157	3530	DeL. Sed. Cpe.	1714	123	1837	3348
					FORD					Convertible	2255	157	2412	3760	Sta. Wagon	2185	147	2332	3698
CHEVROLET					Six					Sta. Wagon	2397	164	2561	3800	DeL. Sta. Wagon	2260	151	2411	3628
Styl. Spec. JJ					Bus. Coupe	1236	97	1333	2960	NASH					Chief, 6				
Bus. Coupe	1240	89	1329	3040	Tudor	1373	102	1474	3005	Rambler					Bus. Cpe.	1462	109	1571	3193
Sedan, 2d.	1310	93	1403	3085	Fordor	1368	104	1472	3075	Convertible	1723	114	1837	2430	Sed. Cpe.	1579	115	1694	3223
Spt. Coupe	1315	93	1408	3060	Custom 6					Sedan, 4d.	1723	114	1837		Sedan, 2d.	1579	115	1694	3243
Sedan, 4d.	1355	95	1450	3130	Tudor	1405	106	1511	3005	Suburban	1823	100	1723		Sedan, 4d.	1627	118	1745	3273
Ftn. Spec. JJ					Club Coupe	1405	106	1511	2995	Statusman					DeL. Sed. Cpe.	1669	120	1789	3228
Sedan, 2d.	1310	93	1403	3090	Fordor	1450	109	1559	3075	Bus. Coupe	1596	114	1710	2900	DeL. Sed., 2d.	1689	120	1789	3243
Sedan, 4d.	1355	95	1450	3130	Sta. Wagon	1895	133	2028	3510	Super					DeL. Sed., 4d.	1717	123	1840	3273
Styl. DeL. JK					Eight					Sedan, 2d.	1671	119	1790	2930	Catalina DeL.	1870	130	2000	3343
Sedan, 2d.	1385	97	1482	3110	Bus. Coupe	1318	101	1419	3000	Club Cpe.	1693	119	1812	2940	Cat. Sup. DeL.	1925	133	2058	3353
Spt. Coupe	1400	98	1498	3115	Tudor	1393	105	1498	3045	Sedan, 4d.	1696	119	1815	2965	DeL. Conv. Cpe.	1985	137	2122	3488
Sed. Air	1430	99	1529	3140	Fordor	1438	107	1545	3115	Custom					Streaml. 6				
Bel Air Coupe	1630	111	1741	3225	Custom 8					Sedan, 2d.	1821	128	1949		Sed. Cpe.	1559	114	1673	3248
Conv. Coupe	1730	117	1847	3380	Tudor	1480	110	1590	3045	Club Cpe.	1843	128	1971		DeL. Sed. Cpe.	1649	119	1768	3263
Sta. Wagon Steel	1870	124	1994	3470	Club Coupe	1485	110	1595	3035	Sedan, 4d.	1846	128	1974	2990	Sta. Wagon	2120	144	2284	3603
Ftn. DeL. JK					Fordor	1575	112	1637	3115	Ambassador					DeL. Sta. Wagon	2195	148	2343	3523
Sedan, 2d.	1385	97	1482	3125	Crestliner	1595			3085	Super									
Sedan, 4d.	1430	99	1529	3155	Conv. Coupe	1820	128	1948	3275	Sedan, 2d.	1997	140	2137	3325	STUDEBAKER				
					Sta. Wagon	1970	137	2107	3550	Club Cpe.	2018	140	2158	3335	Champ. Cust.				
										Sedan, 4d.	2022	140	2162	3350	Coupe, 3p.	1370	101	1471	2585
CHRYSLER					FRAZER					Custom					Sedan, 2d.	1435	105	1540	2670
Windsor 8					Sedan, 4d.	2221	138	2359	3535	Sedan, 2d.	2147	149	2296		Coupe, 5p.	1460	106	1566	2690
Club Coupe	2002	112	2114	3595	Vagabond	2259	140	2399	3555	Club Cpe.	2168	149	2317		Sedan, 4d.	1465	107	1572	2690
Sedan, 4d, 6p.	2021	113	2134	3665						Sedan, 4d.	2172	149	2321	3390	Champ. DeL.				
Sedan, 4d, 8p.	2705	150	2855	4155	HENRY J					88					Coupe, 3p.	1445	104	1549	2610
Twn. and Cty.	2591	144	2735		Sedan, 2d, 4 cyl.	1219	80	1299	2300	Sedan, 4d.	1840	136	1978	3542	Sedan, 2d.	1510	108	1618	2690
Wind. DeL. 6					Sedan, 2d, 6 cyl.	1343	82	1429	2325	Sed. DeL. 2d.	1860	138	1998		Coupe, 5p.	1535	109	1644	2675
Club Coupe	2186	122	2308	3700	HUDSON					Sed. DeL. 4d.	1915	141	2056		Sedan, 4d.	1540	110	1650	2715
Sedan, 4d, 6p.	2206	123	2329	3775	Pacemaker 6					Super 88					Champ. Regal				
Traveler, 4d, 6p.	2425	135	2560		Coupe, 3p.	1773	140	1913		Club Cpe. DeL.	1895				Coupe, 3p.	1520	109	1629	2615
Newport	2498	139	2637	3855	Brougham	1900	147	2047	3475	Sedan, 2d.	1935				Sedan, 2d.	1585	112	1697	2690
Conv. Cpe., 6p.	2598	143	2741	3945	Sedan, 4d.	1940	149	2089	3510	Sed. DeL. 4d.	1990				Coupe, 5p.	1610	113	1723	2675
Sedan, 4d, 8p.	2890	160	3050	4295	Club Cpe.	1940	149	2089	3460	Conv. Cpe. DeL.	2290				Sedan, 4d.	1615	114	1729	2715
Limousine	3010	166	3176		Conv. Brghm.	2400	173	2573		88					Convertible	1905	129	2034	2890
New Yorker 8					Super 6					Holiday Cpe.	2225	158	2383	3762	Comm. Regal				
Club Coupe	2588	144	2732	4145	Brougham	2029	151	2180	3585	Sed. DeL. 2d.	2235	158	2393	3787	Sedan, 2d.	1685	122	1807	3050
Sedan, 4d, 6p.	2613	145	2758	4260	Sedan, 4d.	2074	154	2228	3590	Hol. Cpe. DeL.	2470	171	2641	3857	Coupe, 5p.	1710	124	1834	3025
Newport	2969																		



There are now **9,000,000** Chevrolet owners
who are prospects for

ROCHESTER CARBURETORS

Original Equipment on 1950-1951 Chevrolets

➔ A vast new market for you . . . a market you
can serve by stocking only two models of
Rochester Carburetors.

**ROCHESTER CARBURETORS NOW
ORIGINAL EQUIPMENT ON
THESE GREAT CARS**

CHEVROLET

1950-51 models

OLDSMOBILE

1949-50-51 models

PONTIAC "6"

1951 models

Easy to sell . . . easy to install. Now 9,000,000 owners of Chevrolets built between 1932 and 1949 can have the tremendous advantage of driving with a Rochester carburetor. And you can make big profits by serving this great market . . . by selling and installing this sensational new carburetor that will provide 1951 carburetor performance for Chevrolet owners.

ROCHESTER CARBURETOR PROVIDES NINE BIG ADVANTAGES

Rochester gives all these advantages: 1) No fuel loss on any incline. 2) Smooth acceleration while turning—at any speed. 3) Easier starting in hot weather. 4) Continuous fuel flow. 5) Power mixture readily available. 6) Acceleration—hot or cold. 7) No metering adjustments. 8) All metering parts in cover. 9) Permanent idle tube.

Display Rochester—and you'll SELL Rochester. Order a beginning assortment of Rochester Carburetors and you'll also receive an attractive display and window streamer to help you get your full share of the live prospects now driving Chevrolets. Talk to your distributor, or write us, today.

ROCHESTER CARBURETORS—A UNITED MOTORS LINE
Available everywhere through
UNITED MOTORS DISTRIBUTORS



ROCHESTER PRODUCTS

DIVISION OF GENERAL MOTORS CORPORATION, ROCHESTER, NEW YORK

GO AHEAD FIDO—
SCRATCH YOUR TOP
—WE BOTH HAVE
SOUTHERN FIBER BLOCK

SOUTHERN FRICTION MATERIALS CO. CHARLOTTE N. C.

KEN-TOOL
4-WAY RIM
WRENCHES

They're built stronger
to last longer... forged
from only the highest
quality steel... held
to KEN-TOOL'S rigid
standards. They're
"Job Designed" to do
tough jobs quicker
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KEN-TOOL'S
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Large Exclusive
Manufacturers of
Tire and Wheel
Changing Tools

WOLF'S HEAD
IS 3 STEPS AHEAD

WOLF'S HEAD
MOTOR OIL AND LUBES

100% PURE PENNSYLVANIA

Member,
Penna. Grade Crude Oil
Association

Rubber Research

Both government and industry may be expected to step up research for finding better ways, means and techniques for making synthetic rubber and processes for making it into serviceable products. The "watch dog" committee (Preparedness Subcommittee of the Senate Armed Services Committee) has bluntly told federal agencies controlling synthetic rubber to get on with such work. Now headed by Sen. Johnson, Dem. of Texas, this subcommittee is carrying on work similar to that of the Truman committee during the war.

Packard

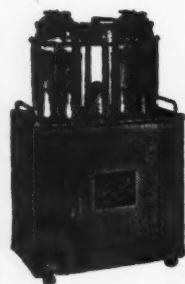
Five of every six Packards shipped to dealers last year were equipped with Ultramatic.

Packard's automatic drive was used on 84 percent of total 1950 deliveries.

The high proportion of Ultramatic shipments last year "may well have been even higher had it been at all possible throughout 1950 for production to keep pace with the demand," said K. M. Greiner, vice president and general sales manager of Packard.

Repairs Rise

More attention to maintenance and repair is in the cards for the motorist in general if the present level of car registration is to be retained. More because of material shortages than diversion of production to defense purposes, Washington expects up to 2,000,000 fewer cars and trucks to roll from assembly lines this year than last. Production officials were told by the automobile industry representatives recently that first half production could not be expected to be more than 75 pct of last year's rate.



CHOLDUN MANUFACTURING CORP.
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New York 18, N. Y.

For More and Bigger
COOLING SYSTEM
SERVICE PROFITS
CHOLDUN
PRESSURE
PURGER

Write for full
information today

for EXTRA
PROFITS
and EXTRA
GOODWILL...
install **RAMCO**
PISTON STABILIZERS
on every Re-Ring Job!

RAMSEY CORP., ST. LOUIS, MISSOURI

HAVE YOU A JOB FOR A TRAINED MECHANIC?

We have a number of alert young men who have completed intensive training in Automotive Mechanics, Automatic Transmissions, and Body-Fender Rebuilding. They learned their trades thoroughly by working on actual equipment under personal, expert supervision. If you need a trained man, we invite you to write for an outline of our course, and for a prospectus of the graduate. No fees, of course. Address:

Placement Manager, Dept. P102-3

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METALLIC ALUMINUM-
FUSED-OXIDE
STEEL ASBESTOS

GASKETS*

**STAND THE GAFF IN
HIGH COMPRESSION ENGINES.**
The Fitzgerald Manufacturing Co.
Torrington, Connecticut

*Service Mark Registration Pending

CRESCENT

Wiry Joe
AUTOMOTIVE CABLE

Manufactured by
THE CRESCENT COMPANY, Inc.
Providence, Rhode Island



✓ **CHECK THE WIRE
ON EVERY JOB**



Keep customers and engines humming... in spite of mounting manpower shortages!

Mounting manpower shortages add another important reason why you should *act now* to put the complete SUN Diagnosis Program to work in your shop. Make sure that you have the very *latest* types of SUN Diagnosis Instruments. Arrange now for SUN Training for your operators.

This complete SUN Diagnosis Program will save precious hours of manpower for you. By substituting scientific testwork for rule-of-thumb guess-work, you'll not only increase shop efficiency and profits to all-time highs but you'll insure customer satisfaction that will pay-off in many years of stable, profitable business. In addition, you become one of the thousands of SUN Diagnosis Stations that are helping to strengthen America's vital transportation arm.

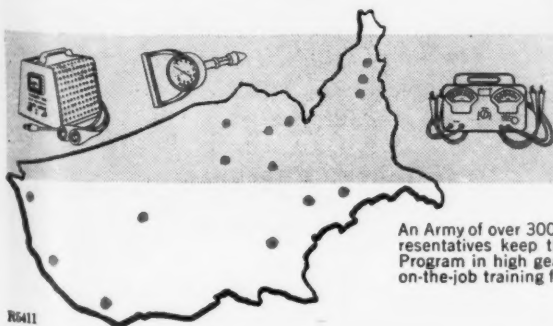
Your local SUN Representative will be glad to help you get started. Why not call him today or write for your complimentary copy of "Dollars from Diagnosis" Booklet, explaining the procedures, equipment and mechanic training in full detail.



the SUN MASTER MOTOR TESTER—Heart of the SUN Diagnosis Program.



don't guess...TEST!
Sun
ELECTRIC CORPORATION
Dept. A, 6353 Avondale Ave., Chicago 31



An Army of over 300 SUN Field Representatives keep the SUN Testing Program in high gear. They provide on-the-job training for thousands of

mechanics yearly... they service equipment and keep a constant check on the efficiency of scientific testing procedures. To insure a

constant supply of highly skilled advanced operators, SUN also maintains 17 strategically located Technical Training Schools.

RG411



Saftibond®
 THE ORIGINAL LINING WITH
 FACTORY-APPLIED BONDING AGENT



GRIZZLY Saftibond
 BRAKE LINING
 SYNCHRONIZED FOR BETTER BRAKES

"TEAM THEM UP"
FOR BONDING AT ITS BEST!

Saftibond®
AUTOMATIC POWER BONDER
FOR FAST, LOW COST OPERATION!

You can count on Grizzly to bring you the best in bonding materials, equipment, and methods, for Grizzly has been *the* industry pioneer in every phase of bonding! Grizzly "Saftibond" Lining, for instance, was the *first* with factory-applied bonding agent, which saves time and produces cleaner, better results, at less cost. And the Grizzly "Saftibond" Automatic Power Bonder, using inexpensive natural or bottled gas, provides the fastest, most economical, and *infallible* way to produce a sound bond . . . at exactly the correct temperature cycle . . . with complete freedom from shoe distortion. Make Grizzly *your* Bonding Headquarters! Ask your Grizzly Distributor for full details. Grizzly Manufacturing Company, Paulding, Ohio.



here's **WHY** you...
...make more money with.....

Rankin SEAT COVERS

More profits on seat covers than ever before... that's what this amazing Rankin Plan can mean to you... has already meant to more than 18,000 Rankin dealers. Here's what you get with Rankin:

- Smart, new patterns and colors in nationally advertised Lumite Woven plastics and plastic-coated fibre materials.
- All the popular sales-building specialty trims.
- Custom-fitted and semi-tailored models... All with superior Rankin tailoring.
- Branch warehousing for faster delivery on special orders.
- A Complete line of big-value covers at truly popular prices.

You SELL more. You MAKE more... with America's Finest Seat Covers by Rankin.



RANKIN MANUFACTURING CO.
CEDAR FALLS, IOWA
WICHITA FALLS, TEXAS BERKELEY, CALIFORNIA



The Rankin SUPER COVER with "Sealtuff" Quilted plastic trim and nationally-advertised Lumite Woven Plastic Fabric. A big seller in an All-Star line.

**HERE'S HOW YOU
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with RANKIN SEAT COVERS**

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plant producing
brake parts and
complete assemblies



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plant producing
wheels for cars,
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KH Detroit, Mich.
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and hub-and-drum
machining division



KH Detroit, Michigan
Military Ave. pressed
metal and hub-and-
drum assembly divisions

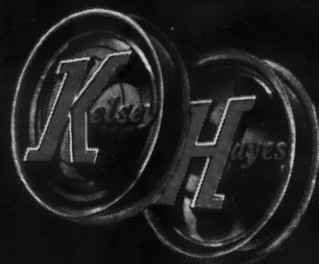


Kelsey-Hayes' huge Foundry, in addition to making many other products for automotive manufacturers, produces brake drums which are machined and assembled at both McGraw and Military Ave. Plants. These hub and drum assemblies, along with wheels from Kelsey-Hayes McKeesport Plant, and brake parts and assemblies from Kelsey-Hayes Jackson Plants are coordinated in their shipments directly to leading automotive manufacturers to efficiently meet their production assembly requirements.



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KELSEY-HAYES WHEEL COMPANY

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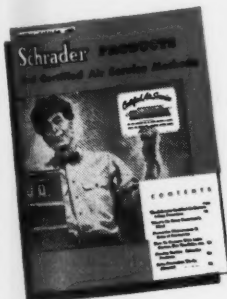
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OF UNIVERSAL JOINTS & PARTS



Neapco Products Inc.
Pottstown, Pa.



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parts cleaner?

CLEAN THE MODERN WAY

with

**NO BRUSHING
NO SCRAPING
NO HEATING
NO DILUTION**



Don't waste your time scrubbing metal parts when you can clean them faster and better with one dip in Bendix* Metalclene. It lifts the grime from the dirtiest parts — large or small — without brushing or wiping. And you save money, for Metalclene keeps its strength. Clean the modern Metalclene way today.

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Standard kit, 2 floor
inlets serving any 2
of 4 cars in a row.

\$351.50

F.o.b. Decatur. Complete packaged unit, including motor and blower — underfloor duct work (for encasing in poured concrete). Additional car service extension, \$49.50 each. Note in illustration that tube disappears without entering main trunk line—for balanced flow of air through main duct and perfect exhaust gas removal.

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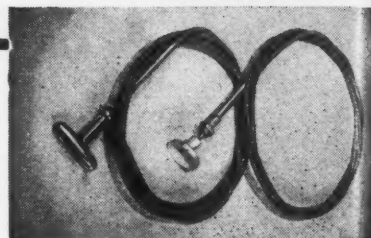
Architects and Builders please refer to Sweet's Catalog.

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World's Largest Manufacturer of Exhaust Gas Ventilating Equipment

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for practically all makes of cars. Quality products with exclusive engineering features and trouble-free service. Easy to install. Easy to sell. Contact your local jobber or write for full information.

Also Mfrs. of Revolutionary Aldo Conversion Kits

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The Standard
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For Leakproof
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COMPLETE JOB
with

RENU Accurate CLUTCH SETS

make more
money, too!

Classified Advertisement

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PETROLEUM OIL
ON RUBBER PARTS AND FITTINGS**

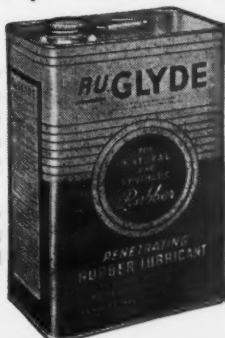
Use RuGLYDE Rubber Lubricant—It's SAFE! Will not harm the rubber, the car finish, or YOU. Penetrates and deposits a slick, wet, graphited film that stops squeaks in rubber shackles, snubber and stabilizer linkage, grommets, bearings, etc. Lasts the life of a lube job.



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Also makes tire changing safer, faster, easier. Available from leading jobbers in 8-oz. refillable applicator can, also in one and five gallon sizes.

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complete line of
axle shaft
replacements.

AT YOUR U S JOBBER
YOU CAN GET THE AXLE
SHAFT YOU WANT. THERE
IS A SHAFT FOR EVERY
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POTTSTOWN, PA.

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Your customers know a good thing when they see it. No need to explain the extra value in Aero-Seal Hose Clamps. Aero-Seal superiority shows in its design.

Worm drive gives uniform clamping pressure—no chance of leakage. Self-locking feature proof against vibration. Extra long take-up reduces number of sizes and inventory required. Screwdriver and thumb-grip types.



**"Aero-Seal"[®]
HOSE CLAMPS**



Worm Drive
Never Works
Loose

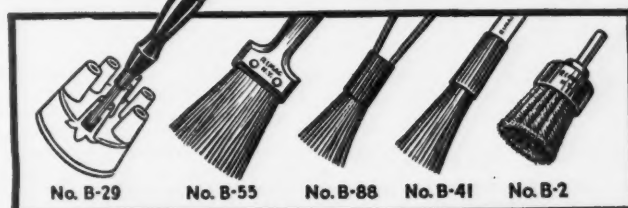
- Easy to install
- Use again and again
- Will not loosen
- Costs a little more
... pays you a lot more profit.

BREEZE CORPORATIONS, INC.

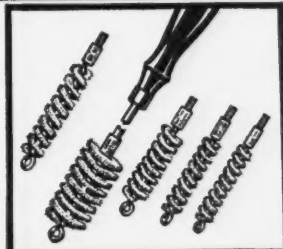
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- No. B-29 Distributor Head Brush. Quickly cleans and dresses distributor head sockets.
No. B-55 Muck Brush, Metal Handles. Excellent for cleaning small parts.
No. B-88 "Utility" Wire Brushes. Ideal for cleaning battery terminals and removing solder, chips, filings, etc.
No. B-41 Parts Cleaning Brush. Pig Bristles set in Rubber. Does not collapse in water, oil or gasoline. No metal—no sparks.
No. B-2 Rotary Wire Brush for use with electric drills.



Valve Guide Brushes. Interchangeable and economical. Five sizes handle 90% of passenger cars and light trucks. Over all length 11".

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- 2—"Spiral Twist" Wire Wheel Brush Sections.



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Missing something, Mac?

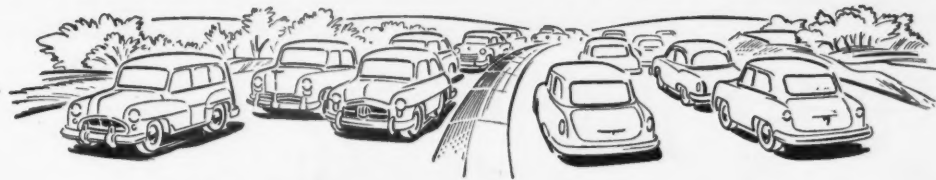


Mac is missing a snappy undercoating job by not taking the "broad" view of this situation—just as some garage men and service station operators are missing an even broader view of their profit picture by not handling the fast-moving line of Monroe replacement shock absorbers.

Direct-acting Monroe Shock Absorbers are among the most profitable replacement items that you can carry. Monroe shocks are easy to sell, easy to install and the job takes less than 30 minutes with most cars. The customer drives away happy, and you ring up a nice profit.

Why not get some of this business? Call your jobber or write the factory today.

DON'T MISS THIS SHOCK MARKET THAT HAS DOUBLED IN TWO YEARS



17,000,000 Cars Now on the Road with Direct-Acting Shock Absorbers

Two years ago, there were 8½ million cars with direct-acting shock absorbers. Now there are more than 17 million. That's how your market has grown—and

it gets bigger all the time, with direct-acting shocks being standard equipment on practically 90% of all cars made today. Don't miss your share of this key market.

Monroe Shock Absorbers are standard equipment on more makes of cars than any other shock absorber.

MONROE AUTO EQUIPMENT CO.

Monroe, Mich. — World's Largest Maker of Ride Control Products

U.S.A.'s NEWEST

PROTECTED BY THE MAKERS OF MOBIL OIL!



New pride of America's Merchant Marine...

the SS Independence is protected 100% by the makers of Mobil Oil ... just one more reason Mobil Oil quality is the favorite of your car-owner customers.

But selling Mobil Oil means far more to you as a car dealer. It means greater absorption of overhead—increased customer contacts—through our special program, which not only trains your men in correct lubrication—but shows them how to feed more business to other departments.



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LARGEST-SELLING
MOTOR OIL**

Why Sell Anything Less?



SOCONY-VACUUM OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

Stabilization *instead of wall pressure...*



another important reason why:

RAMCO **10_{up}** CURBS WEAR!

Ramco RE-POWERING Program
Helps You To Help America
Fight Premature Car Wear

Here's the program to help you show customers that oil pumping and blow-by are warning signs of serious premature wear. Help America conserve resources by urging customers against putting off re-ringing. Sign up for

RE-POWERING Station Sign today. See your Ramco Jobber.



Pressure problems such as are involved in the contacting of steel with cast-iron, during the break-in period, are simply nonexistent with Ramco Spiro-Seal. Spiro-Seal solves the pressure problem by making possible the employment of the Ramco stabilization principle rather than the pressure principle to control oil and blow-by.

Here's why Ramco Spiro-Seal can and does function efficiently without the use of inner-ring pressure, during the break-in period. This stabilizing action is further fortified by the multiple bearing surfaces of steel and cast-iron which are employed in every Ramco 10-Up ring combination.

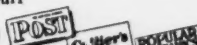
Ramco STABILIZATION Principles are one of many Ramco originations which CURB WEAR... one reason why you can install 10-Up rings with Ramco's 10,000 MILE (one year) GUARANTEE on both rings and labor.

It's another important reason, too, why:

Ramco 10-Up Piston Rings Are Right for Any Job
Re-Bore or Re-Ring.. Car.. Truck.. Bus.. Tractor

Copyright 1951 Ramsey Corporation, St. Louis, Missouri

Ramco National Advertising in



"Why I changed my serviceman"

By a Disgruntled Car Owner

"I had just had the old bus serviced—and we were off for a picnic at Silver Lake—happy as kids on circus day. There we were, driving down a lonely road—ten miles from a service station—when the fan belt went blooie! Our holiday was shot to Halifax. You ask me why I changed my serviceman?"



Was This One of Your Customers?

...or do you always replace the fan belt before it fails?

Do you check the fan belt every time you service a car? Do you make *sure* it won't let your customer down?

Remember, everything hangs on the fan belt—the cooling, ignition and lighting systems. You don't save your customer anything by postponing the replacement of his fan belt, because it's bound to break—and he will blame you.

Make your replacements with Thermoid Fan Belts. They are "a horse of a different color." Thermoid Fan Belts are

pre-stretched to insure *lasting* fit. Belts that don't stretch, don't slip, and so they last longer—give more dependable service.

Thermoid Company • Trenton, New Jersey

Tell Your Customers These Facts About Fan Belts

A fan belt takes an awful beating from oil, grease, engine heat and just plain wear.

Automotive engineers advise playing safe by replacing fan belts every two years, or every 20,000 miles.



Thermoid

Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment